Modern packaging

Nominated for *Packaging's Hall of Fame*. Story on Page 112

June 1953

Modern packaging

Nominated for *Packaging's Hall of Fame*. Story on Page 112

June 1953

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SHIPPING CONTAINERS

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Modern packaging

Vol. 26 No. 10 June 1953

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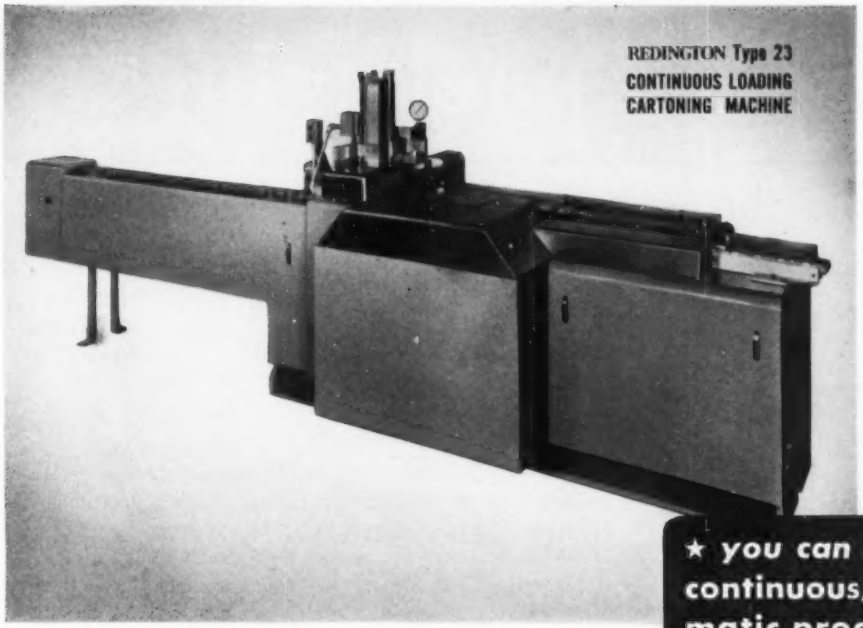

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CARTONING JAR RINGS FOR VICEROY MFG. CO., LTD.

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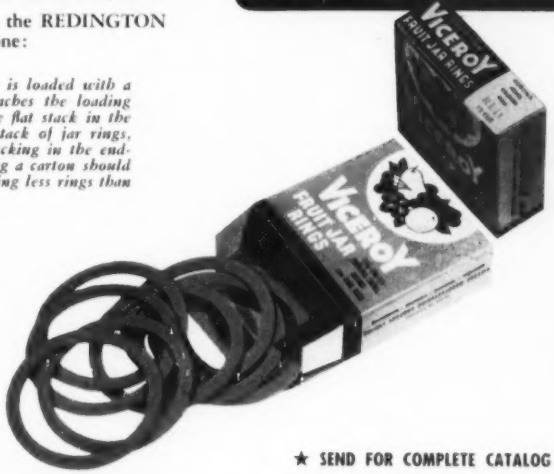
Other REDINGTON machines of this basic type operate with similar simplicity and directness in efficiently cartoning tubed products, ampoules, facial tissues and almost any solid item. You can have attachments to perform many supplemental operations such as circular folding and feeding, code dating, automatic dropper feeding and others. And features like *Self-Aligning Roller Bearings . . . One-Piece Cast Iron Frame . . .* and others (standard in REDINGTON construction) assure long, trouble-free life, with high performance and low maintenance.



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MODERN PACKAGING is regularly indexed in *Industrial Arts Index.*

Traveling billboards

WE HAVE TALKED FREQUENTLY about the advertising value of the package—the use of package surface not merely to sell the product within that package, but to enhance the reputation of the producer and the brand name. The package has "circulation" that frequently runs into the tens of millions—and the advertising rates are nil.

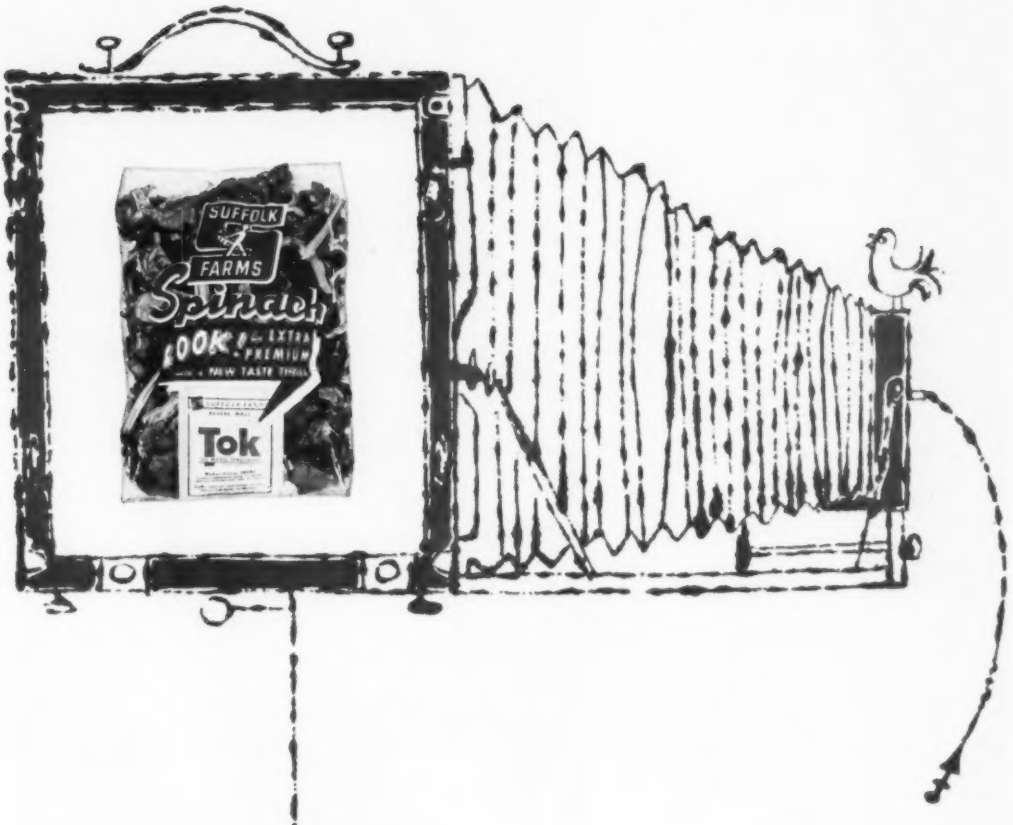
These principles are pretty well accepted today, as far as the unit package is concerned. But the similar opportunity to employ the shipping case as a colorful traveling billboard has, for some reason, not been exploited as fully as it might be. The audience may not be quite so large, but every person who looks at a shipping case on its journey from the factory to ultimate consumption is a potential customer for most products.

Recently Stone Container Corp. hired a private survey firm to find out just how many pairs of eyes might light on a typical shipping case during its travels. The box chosen for the test was the well-designed, maroon-and-yellow corrugated container used by Admiral Radio & Television Corp.

During its journey of 10 miles through Chicago streets from the Admiral plant to a distributor's store, the box—in an open-end trailer—was directly viewed by 467 pedestrians, bus riders, motorists and other truck drivers. While being unloaded at the store the box was observed by passersby, people waiting for a bus, passengers in a stopped bus and customers in the store—another 156. When a set was delivered to a nearby apartment building, five pedestrians watched the operation and, taking note of human nature, the report adds: "We have no idea how many people watched or noticed from windows of nearby apartments."

Altogether, 628 potential purchasers of television sets were known to have been exposed to Admiral's traveling billboard. If the good impression created by the colorful carton influenced no more than two additional sales, it paid a hundred times over for the slight cost of careful design and perhaps one additional printing impression.

The Editors

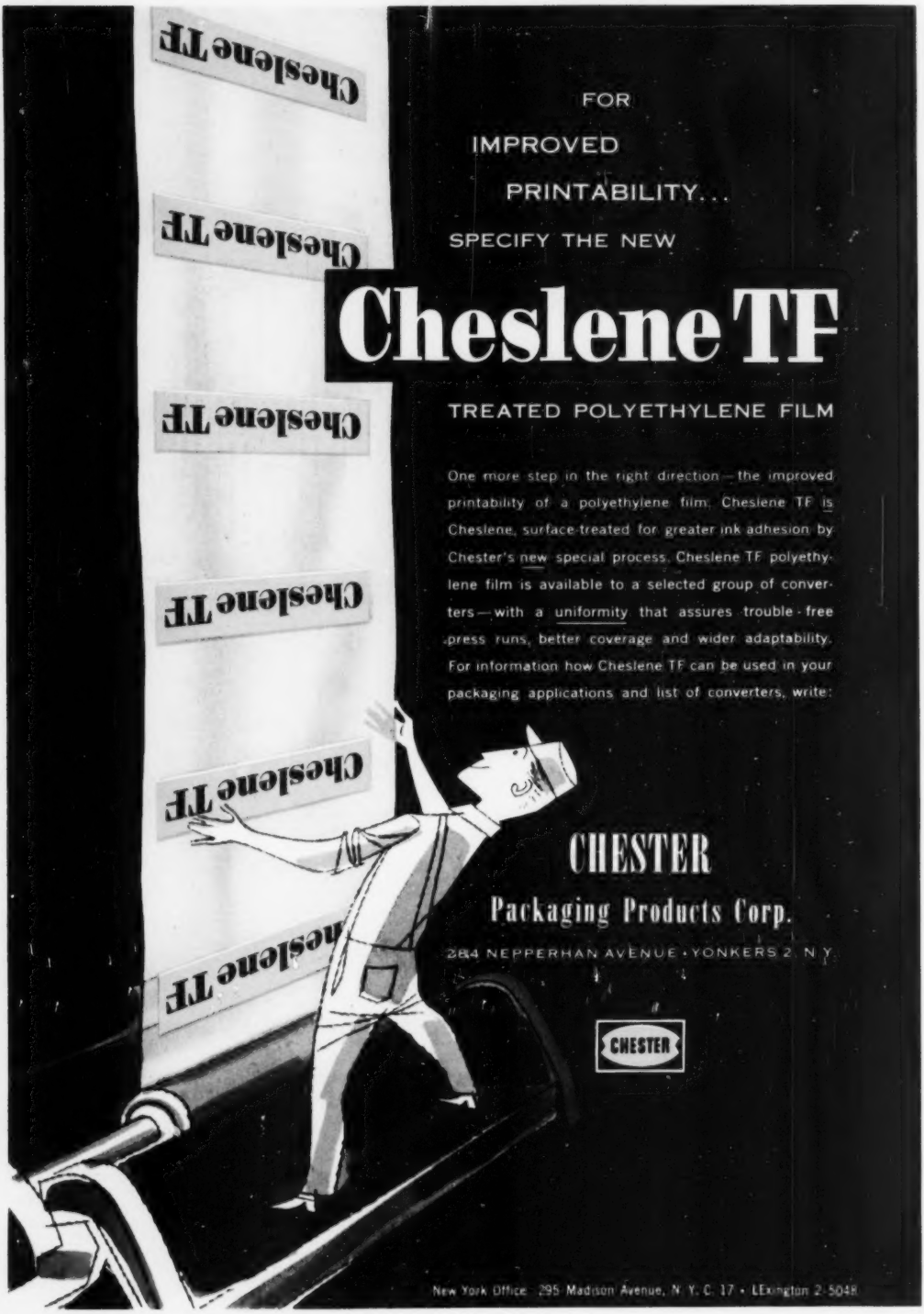


Better packaging **Ideas**...bigger sales

Like the folks at Suffolk Farms. Sales *doubled* when they introduced this exciting new packaging program in spinach. Each bright cellophane bag contains a packaged portion of TOK, the magic seasoning that makes even the kids reach for seconds. Both packages by Dobeckmun help Suffolk Farms to bigger profits, bigger sales. It's the kind of creative thinking that is yours by getting in touch with Dobeckmum today.

The **Dobeckmun** Company, Cleveland 1, Ohio • Berkeley 2, California • Bennington, Vermont

Atlanta • Boston • Charlotte • Chicago • Cincinnati • Dallas • Detroit • Indianapolis • Kansas City • Lexington • Los Angeles • Memphis • Milwaukee
New Orleans • New York • Philadelphia • Pittsburgh • Portland • Richmond • Rochester • Salt Lake City • Seattle • St. Louis • St. Paul • Tampa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Another new development using

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This Geon vinyl sponge developed in B. F. Goodrich Chemical Co. laboratories

How to pack a Fragile Baby!

THE cost of damage to electronic or other sensitive instruments in shipping is high, so that special packaging is needed to guard against such injury. See how well this new Geon vinyl sponge does the job!

It can be molded to fit the shape, for exact and firm "holding". Then, with a top layer of the sponge, the instrument is completely and safely covered. No extra wrapping is needed.

Because this Geon vinyl sponge is resilient and shock-resistant, it cushions instruments against damaging bumps and jars. And because the sponge is made of Geon, it also resists aging, alkalis, oils, greases and many chemicals. A material that has wide possibilities for packaging optical instruments, electrical equipment and other fragile objects!

Perhaps this use of Geon may start you thinking how a Geon material—resin, plastic granules or latex—may help you solve a problem, develop or improve more saleable products. We'll help with technical advice, aid you in selecting the Geon material best suited to your needs. For information, please write Dept. GL-6, B. F. Goodrich Chemical Company, Rose Bldg., Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

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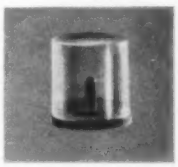
in a TRI-STATE Rigid Plastic Box

A container for holding spooled textile sutures. Contents must be identifiable and easily accessible to speed-up operating technics. While sterility is not a factor, protection of spool against dust and contamination is desirable. Quick identification code will facilitate container's use in operating room.

To meet these specifications from Ethicon Suture Laboratories, Inc., New Brunswick, N. J., Tri-State developed the container pictured. Sturdy, crystal-clear, plastic cover shows box's contents at a glance. Pressure-fit case lifts off easily, and spool is held by spindle in container's base. Opaque plastic base is colored to conform with spool labels. Red base identifies silk sutures; green base, nylon; blue base, blue and white cotton.

Tri-State met all of Ethicon's requirements, and delivered bonus features to manufacturer and user alike. The new Ethicon container simplifies packaging operations – cuts time and costs. To the user, this new rigid plastic package offers extra convenience. It nests for compact storage; and when empty serves as a bonus utility box. Doctors and nurses find it ideal for holding surgical needles, small odds and ends, and a variety of other items.



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Makes the answer louder, clearer
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Pabst Blue Ribbon foil body label!
(Pabst has long used a foil neck label.)

It's Reynolds Aluminum Foil, of course. Look at the grosgrain effect Reynolds embossing has achieved in the blue of Pabst's blue ribbon. Look at the richness of the colors...gravure-printed by Reynolds. This brighter beauty will draw more eyes, more reaching hands. And it is beauty that will stay bright, even under wet refrigeration, because foil is moisture-proof. There's going to be a bigger chorus than ever answering that famous question: "What'll you have?"

For many other products, the *practical* advantages of Reynolds Aluminum Foil are all-important...unequalled protection for cookies, dried fruits, butter, margarine, etc., etc. But always you get the plus of greater eye-appeal...self-selling brilliance on the nation's market shelves. Whether your product needs protective packaging or a label that outshines competition, Reynolds Aluminum is the answer. Let us show you. Call the nearest Reynolds Sales Office or **Reynolds Metals Company**, General Sales Office, Louisville 1, Kentucky.

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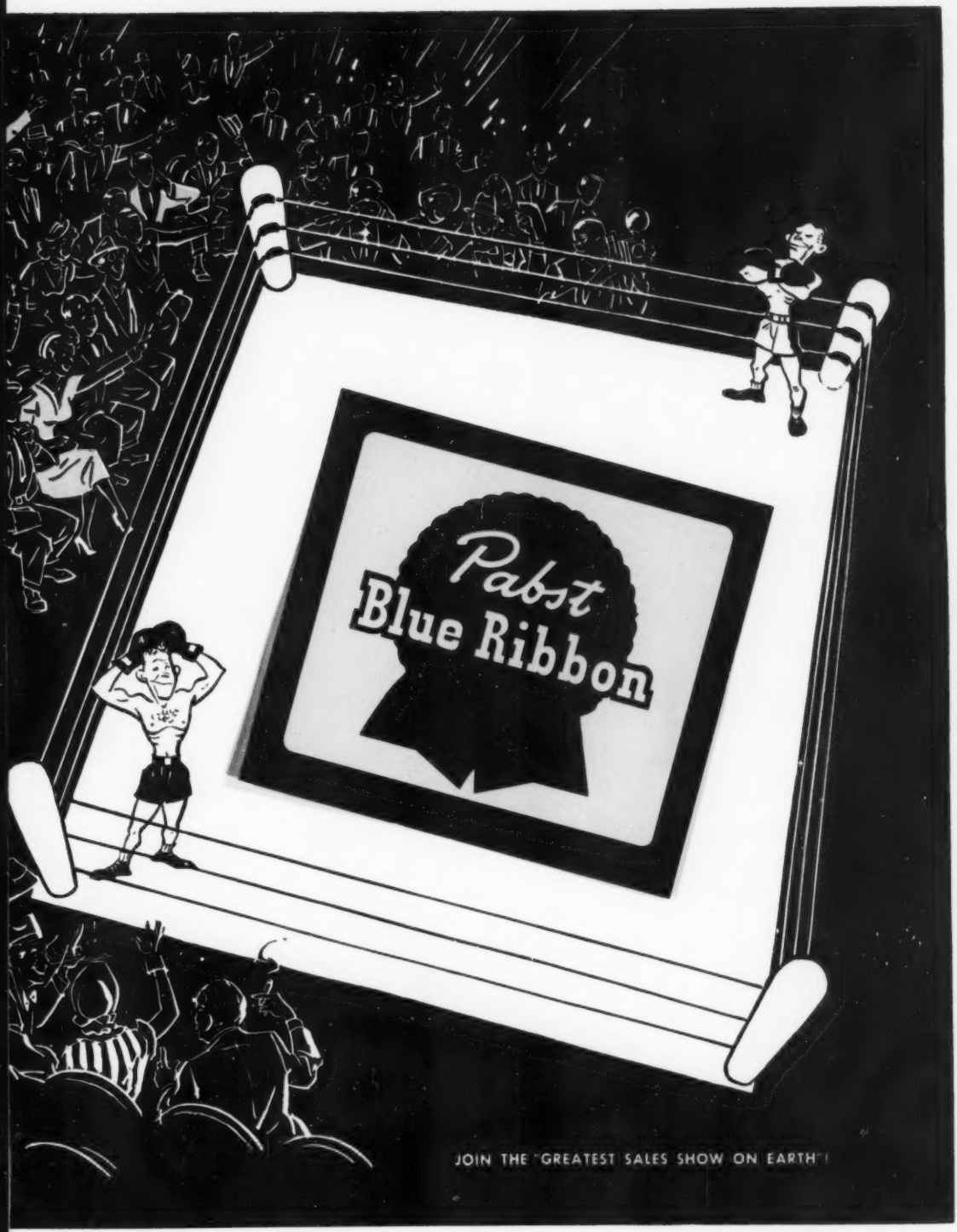
Pabst
Blue Ribbon
JOIN THE "GREATEST SALES SHOW ON EARTH"!

View of Stokes and Smith Automatic STOKESWRAP Machine packaging Nestle's Semi-Sweet Chocolate Morsels in 6-oz. double cellophane packages.

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TRADE MARK

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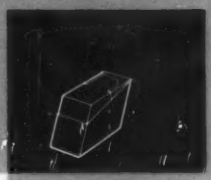
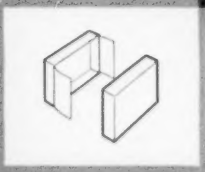
Ritchie did, creating (1) two attractive boxes—one for 60 tablets, one for 120 tablets; (2) arresting display pieces that held these boxes in an unusual "stepladder" fashion to make selection easy, get attention on busy counters; and (3) a unique mail order box.

The rest you know. And as with Junex, effective Ritchie packaging is helping build sales for hundreds of *other* famous products. The reason: it does more than just protect and contain . . . it reminds, attracts, *sells!*



COUNTER DISPENSERS serve as shipping containers, store compactly, and convert into point-of-purchase displays.



MAIL ORDER BOXES keep handling costs down with specially designed flaps which *close* and *seal* in one operation.

SEND FOR THIS USEFUL FREE BOOKLET! Whatever *your* packaging needs—folding cartons, set-up boxes, fibre cans, transparent packages, paper spools, displays or dispensers, tubes or cores—Ritchie has ready answers. Write for "101 Ways To Get Better Packaging." It's free!

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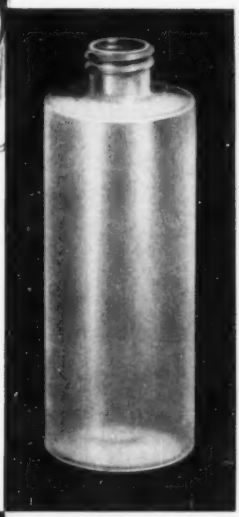
BOTTLES



Manufactured under patents 2,515,093 · 2,579,190 — 2,579,399. Other patents pending.

You can quickly see why MILLSPLASTIC bottles have hit the buying public with such habit-changing power.

Three words—lightweight, unbreakable, versatile—tell the story. They mean greater safety and usefulness for the consumer, reduced shipping, breakage and spoilage costs for the cosmetic, drug and chemical manufacturer. Industrial users find that aside from these general advantages MILLSPLASTIC bottles have properties which make them the best possible containers for acids and a variety of chemicals.

The superior design and quality of MILLSPLASTIC bottles is evident in our two standard styles, Mills "Cylinder" available in 2-4-6-8 oz. and quart and gallon sizes; Mills "Oblong" in 2-4 oz. size. Both styles come in natural Polyethylene or your favorite color.

We also custom design MILLSPLASTIC bottles in sizes, shapes and colors to meet your special needs. Atomizers, tubing and closures are available in standard styles or can be custom made.

Great as the impact of MILLSPLASTIC bottles has been, we don't believe that the surface of their usefulness and versatility has been scratched.

Your product may have a use that can blaze new trails of profit when packaged in MILLSPLASTIC bottles. Why not talk it over with us or our sales agents today. *T. M. Reg.

ELMER E. MILLS CORPORATION
2930 NORTH ASHLAND AVENUE • CHICAGO 13, ILLINOIS

WAXING MACHINES BY DILTS

It is one thing just to build a waxer. It is an entirely different matter to bring many years of experience with waxers to bear—and build a really modern and good waxer.

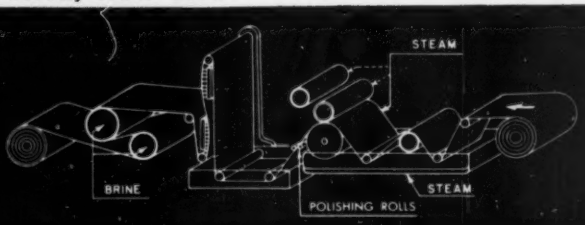
The high speed waxer above typifies the many Dilts installations in the highly specialized waxing field over the years.

Write for bulletin 9-DM and reprint of technical paper on "Quality Production on high speed Waxing Machines."

THE BLACK-CLAWSON COMPANY
DILTS MACHINE WORKS DIVISION
Fulton, New York

Dilts

Embossers
Coaters
Laminators
Continuous Unwinds
Continuous Winders



COMPLETE WAXING AND WAX LAMINATING INSTALLATIONS

COMPARE OLIVE'S CANS

on every important count

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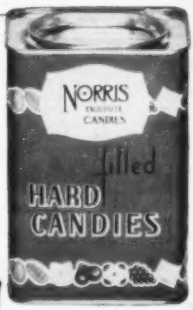
DESIGN

PRICE



Here are the three main reasons you should package in Olive Can Co. Cans:

1. They are beautiful—a real treat to the eye. And your customers will be able to put them to many other uses.
2. They are moderately priced—far less expensive than you would think such outstanding appearance and *protective construction* would cost.
3. Olive Can Co. service is notably cooperative—giving you plenty of helpful assistance . . . on design, on size selection, and on delivery.

Write us today for full particulars. Olive has been making fine plain and lithographed metal cans for over forty years.

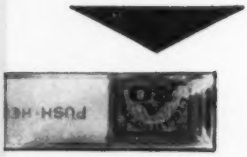
OLIVE CAN COMPANY

MANUFACTURERS · DESIGNERS · PLAIN · LITHOGRAPHED

METAL CONTAINERS

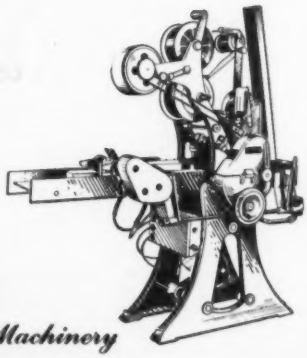
452 N. Leavitt St. · Chicago 12, Illinois

Quality DEMANDS Quality



WITH REVENUE STAMP ATTACHMENT

SCANDIA'S all rotary continuous motion means higher wrapping efficiency with lower maintenance costs. The compactness of design saves valuable floorspace. All types of special attachments are available, such as Opening-Tape Units, Automatic Intakes and Special Discharge Stackers, Electric Eye Registration Units, Booklet and Card Feeds, etc.

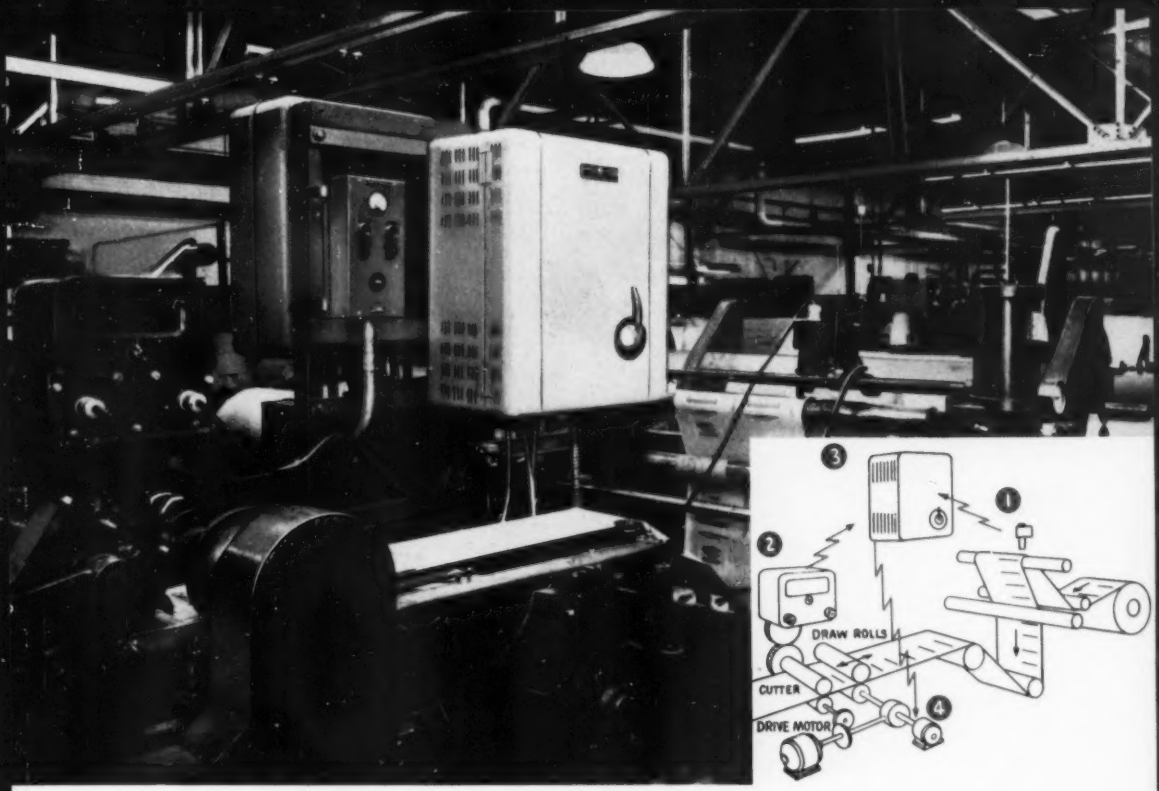


SCANDIA

Manufacturers of Better Packaging Machinery

• 500 BELLEVILLE TURNPIKE • NORTH ARLINGTON, N. J. •

BUNDLING • BANDING • MULTIPLE WRAPPING • STAMPING • HIGH SPEED WRAPPING



THIS BAG MAKING MACHINE RUNS FASTER WITH

Accurate G-E Cut-off Register Control

This G-E system makes as many as 10 corrections per second to keep the cut-off in correct register to pre-printed rolls running through the process machine. Even at web speeds up to 750 feet per minute, it maintains hairline accuracy by correcting for such variables as: draw-roll slippage, web stretch, tension variations, difference between web speed and cutter speed, and web changes due to drying.

REDUCES WASTE, CUTS COSTS

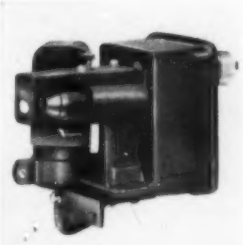
This completely automatic system cuts labor costs because it releases the machine operator for other duties. Its high accuracy means less waste, maximum utilization of wrapper space, and greater sales appeal for the product.

FOR FURTHER INFORMATION on the several types of cut-off register control available, contact your nearby G-E Apparatus Sales Office or authorized G-E agent, or write Section 785-3 for Bulletin GEA-4371A. *General Electric Company, Schenectady 5, New York.*

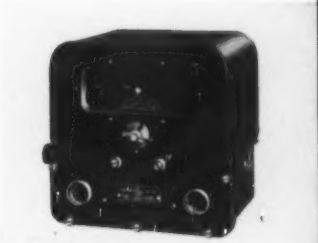
1879 75 1954 YEARS OF ELECTRICAL PROGRESS

You can put your confidence in—

GENERAL ELECTRIC

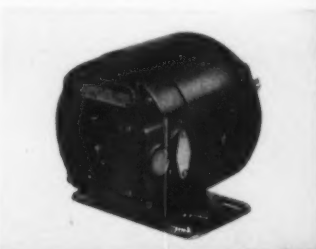


1 PHOTOELECTRIC WEB SCANNER detects web position from register marks of any color



2 PHOTOELECTRIC SELECTOR SWITCH detects position of cutter in relation to web

3 CONTROL PANEL compares the two signals to see if they are in proper relationship



4 F-HP CORRECTING MOTOR adjusts relationship of web and cutter for direct register

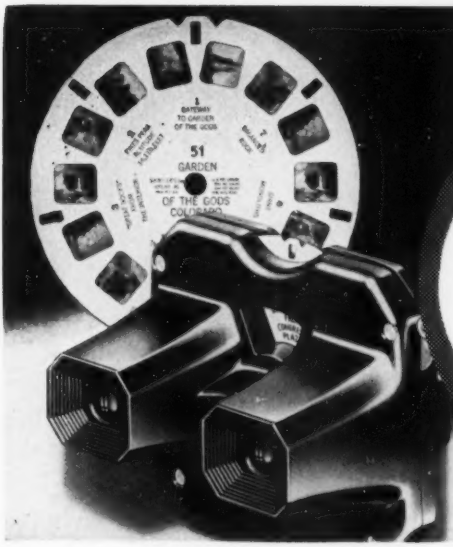
Here's a brand new way to please the folks who really enjoy a sparkling salad. Vita Food Products, Inc. of Chestertown, Md. has blended four fresh garden vegetables in an old-fashioned piquant sauce . . . attractively packaged in jars for all to see and enjoy.

TAKE A GOOD LOOK AT THAT CLOSURE . . . it's a Crown Vacuum Lug Cap . . . the hermetic seal that can be removed with a simple quarter-turn by hand . . . and that makes a perfect re-seal over and over.

The Crown Vacuum Lug Cap provides a dependable hermetic seal and fast, trouble-free application on production lines. Ask your Crown Representative for full details about sealing with Crown Vacuum Lug Caps . . . THE VACUUM SEAL WITH SALES APPEAL. Crown Cork & Seal Company, Baltimore 3, Maryland. *World's Largest Makers of Metal Closures.*

Approved by Millions of Housewives

CROWN CLOSURES



Pyroxylin can design a Heat Seal expressly for YOUR process

READ THIS INTERESTING CASE HISTORY

The solution of an involved adhesive problem for VIEW-MASTER

Sawyer's View-Master reels are known throughout the world for their stereoscopic natural color reproductions of famous scenes.

Less well-known is the vital role which a certain Proxseal adhesive plays in the fabrication of View-Master reels. On intricate and delicate machines, Proxseal heat-sealing compounds make possible the production of these reels—automatically—rapidly—without paste, glue, or solvent.

Tiny pairs of Kodachrome pictures are precisely mounted upon the carrier disc by heat-sealing to its Proxseal coated surface—an operation which must be carried out below the critical temperature of the film dyes.

The cover disc is then superimposed by heat-sealing — making a permanent pictorial unit—without migration of adhesive into the picture field area.

The finished View-Master reel is released from the heat-sealing operation without chilling — without distortion — without loss of bond — a photographic structure which Sawyer's confidently ships into all climates, all over the world.

This is but one "case history" in the list of Pyroxylin's development of heat-sealing adhesives.

Send for informative literature

Proxseal adhesives have been developed for use on labels, identification bands, tags, bag strips, bottles, titewraps, bag saddles, end seals and cartons.

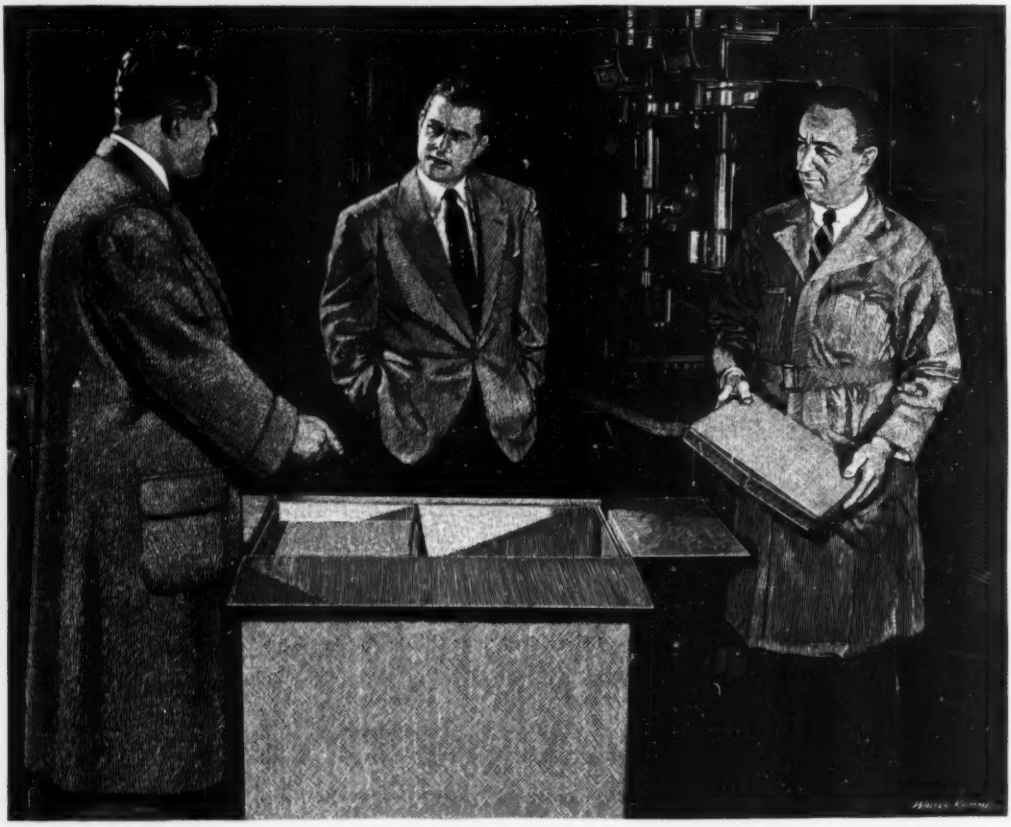
PYROXYLIN PRODUCTS, Inc., Chicago 32
Please send me FREE LITERATURE ON HEAT-SEALING.
Name _____
Address _____
City _____ State _____

® SAWYER'S INC., PORTLAND, OREGON

WICHITA KANSAS

PYROXYLIN PRODUCTS, Inc.
CHICAGO 32

PAOLI PENNA.



Put A Gaylord Man On Your Team... It Pays Off In Reduced Packing Costs

One manufacturer is saving 75% in packing costs and 55% in container weight with his new Gaylord-designed "package".*

Your savings may not be as great . . . but a Gaylord man, working with management, design, production and purchasing, is almost certain to come up with cost-cutting suggestions for tough packing problems.

Look in the classified pages of your phone book under "Boxes (Gaylord)" for the Sales Office nearest you.

*Name and address on request.

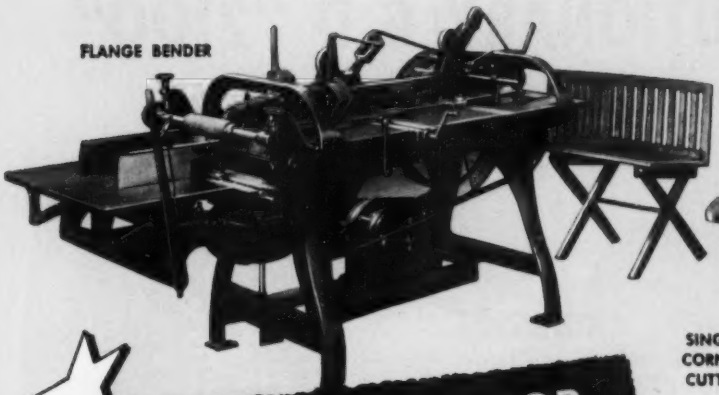
Gaylord Boxes

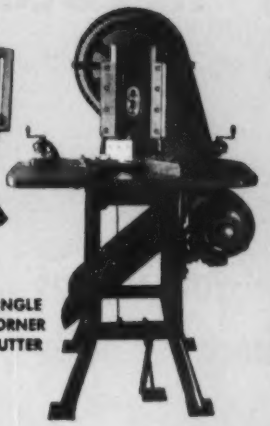
Their seen and unseen quality gives you an extra margin of safety.

GAYLORD CONTAINER CORPORATION

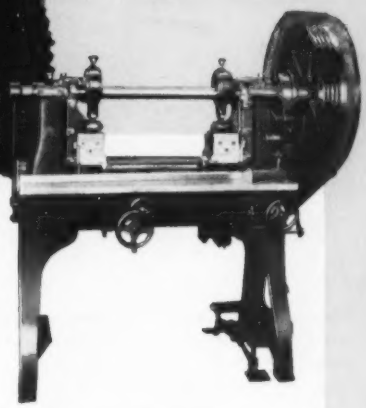
General Offices: ST. LOUIS • Sales Offices Coast-to-Coast

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES





KEY MACHINES FOR SAVING COSTS IN SET-UP BOX PRODUCTION LINES



This trio of Knowlton set-up box production machines plays an important role in overall costs where tight margins of profit are involved.

The Automatic Flange Bender, for example, will not only increase output, but produce a higher quality box. It replaces hand bending and will do as much work in one hour as hand operation can turn out in several hours. It soon pays for itself in labor saved.

Knowlton Single and Double Corner Cutters are built to stand continual usage and keep product waste at a minimum. Work can be turned out fast, accurately and uniformly whether the cutting need is light or heavy, deep or shallow.

Set-up box men can rely on Knowlton Corner Cutters and Flange Benders to do as near perfect a job as possible, whether judged from the standpoint of saving time, material or labor.

Write our Rochester or any Branch Office

BOSTON
637 Massachusetts Ave.
(ARLINGTON)

M. D. Knowlton COMPANY

BROOKLYN · CHICAGO · TORONTO, CAN.

Pacific Coast Representatives
H. W. BRINTNALL CO.
Los Angeles, San Francisco

ROCHESTER, NEW YORK

REVOLUTIONARY G. D "2100"

foil-wraps and embosses chocolate coins, croquettes, etc. in *One* operation

Produces up to 100 a minute

Here it is . . . the most revolutionary new machine for foil-wrapping and embossing chocolate discs, chewing gum and other materials—the G. D "2100" Automatic Foiling and Embossing Machine.
Here's how simply the G. D "2100" operates:

> Chocolate discs, or other materials to be wrapped, are fed into the machine by means of a simple stacker. Individual pieces are automatically carried to the wrapping mechanism, where, in one operation, the piece is foil-wrapped, embossed and the edges serrated (such as in the case of coins). Both sides of the disc are embossed simultaneously. When the feeding stack is empty, an electric feeler automatically stops the machine.

With the G. D "2100" you can wrap any size chocolate disc or chewing gum—from $1\frac{1}{16}$" to 2" diameter, and from $\frac{1}{8}$" to $\frac{3}{16}$" thickness. The change from one size to another requires only a simple change of dies.
One operator, even without experience, can supervise the entire operation of the G. D "2100" and produce from 80 to 100 perfectly foiled and embossed pieces a minute. Using only one spool of foil (effecting great foil economy), the G. D "2100" produces a neat, accurate, hermetically sealed wrapping.
Let the G. D "2100" go to work for you. Write today for the full details of its simple operation, high efficiency and low production cost.

OTHER G. D MACHINES FOR WRAPPING

- Pre-formed Hard Candies
- Chocolate Tablets & Bars
- Individual Chocolates
- Chocolate Croquettes
- Wafer Biscuits
- Solid Jams or Gelatine Bars
- Soap Cakes
- Cigarettes
- Pharmaceutical Boxes, etc.

NCA Convention—Booth 90

S/A G. D COSTRUZIONI MECCANICHE—FONDERIE
BOLOGNA, ITALY

Representative for U.S. & Canada: CAESAR A. MASCHERIN, 15 Park Row, New York 38, N. Y.

Great Ideas of Western Man . . . ONE OF A SERIES

Dr. Johnson on the art of happiness

THERE IS NOTHING TOO LITTLE FOR SO LITTLE A CREATURE AS MAN. IT IS BY STUDYING LITTLE THINGS THAT WE ATTAIN THE GREAT ART OF HAVING AS LITTLE MISERY AND AS MUCH HAPPINESS AS POSSIBLE.

(From James Boswell, *The Life of Samuel Johnson, LL.D.*, 1791)

Artist: Arthur Williams

Container Corporation of America

Tupper Seal, air and liquid tight flexible covers fit, and are included in the sets of all Tupperware Canisters.

The Tupperware 50 oz. Canister is "standard equipped" with the Tupper Seal, air and liquid-tight flexible Pour All cover.

The Tupper Seal, air and liquid-tight flexible Pour All cover is used on every Tupperware 20 oz. Canister.

The Tupper Seal, air and liquid tight, Pour All cover as a cover for 45 oz. cans; Tupperware Sauce Dishes and other containers of metal, glass or pottery. Foods easily dispensed without removing entire cover.

The Tupperware Wonder Bowls are usually fitted with Tupper Seal, air and liquid-tight covers.

Argentine Patent 74,095 dated Dec. 14th, 1949 on invention covered by U. S. Patent 2,487,400 November 8, 1949. Canada Patent 463,387 Feb. 28th, 1950. Union of So. Africa Pat. 8,592 Sept. 21st, 1949. Belgium Pat. 491,293 Oct. 15th, 1949. Switzerland Patent 48,970 Sept. 23rd, 1949. Italy Patent 456,937 September 19th, 1949. Germany Patent 829,248 September 25th, 1949. Great Britain Patent 96,970 September 27th, 1949. Argentina Patent 39,676 December 29th, 1951. 30th, 1949. Brazil Patent 51,615 January 3rd, 1952. Other U. S. and Mexico Patent Foreign Patents Pending.

TUPPER / Seals

air and liquid-tight, flexible covers for Tupperware Tumblers, Canisters, Wonder Bowls, Cereal Bowls and many another container of glass, metal and pottery, the contents of which it is desired to keep fresh and wholesome.

TUPPER /

FORMAL NOTICE! 9th November, 1949

EXCLUSIVE!

U. S. Patent #2,487,400

The Tupper Corporation has attained a position of leadership in this industry by incurring great expense and expending painstaking effort in the development, design, manufacture and exploitation of its many world-known products.

The Tupper Corporation further has anticipated the inevitable attacks to which leadership is subject and has taken measures provided by law to preserve the creative rights to its products, methods and design by patent protection both in the United States and abroad.

Tupper Seals for Tupperware shown in this advertisement are just a few of the forms covered in this manner and are specifically covered by U.S. Patent #2,487,400.

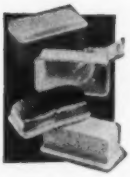
Only the Tupper Corporation, by U.S.Patent #2,487,400 has the right to make, use and vend container closures in connection with any and all types of containers throughout the United States and its territories as covered by the claims of the Patent.

Tupper Corporation will protect, according to law, the exclusive rights above granted

TUPPER CORPORATION

There's a Tupper Seal, air and liquid-tight flexible cover for Tupperware 2, 5, 8 and 12½ oz. Tumblers too, and these Tupper Seal, covers fit many other containers of metal, glass and crockery.

The Tupper Seal, air and liquid-tight flexible Por Top cover, specially designed as a dispensing cover for specified diameters of containers holding foods such as syrups, salad dressings, catsup.



The cover of the Tupperware Bread Server which serves as a bread tray also is designed to give similar results as Tupper Seal, air and liquid-tight Flexible covers. Keeps contents fresh as no other such container.

When equipped with Tupper Seal, air and liquid-tight, flexible covers, Tupperware Cereal Bowls serve many another purpose.

The Tupper Seal, air and liquid-tight flexible cover made for Tupperware 8 oz. Tumblers also fits and is sold with all Tupperware Funnels as a base when funnels are used as storage containers.

TUPPER CORPORATION

Manufacturers of — CONSUMER, INDUSTRIAL, PACKAGING AND SCIENTIFIC PRODUCTS

Factories, Laboratories and Sales Offices: Farnumsville, Mass., Orlando, Fla., L'Epiphanie, P.Q. Showrooms: 225 Fifth Ave., N. Y. C.

ADDRESS ALL COMMUNICATIONS TO: Department MP-6

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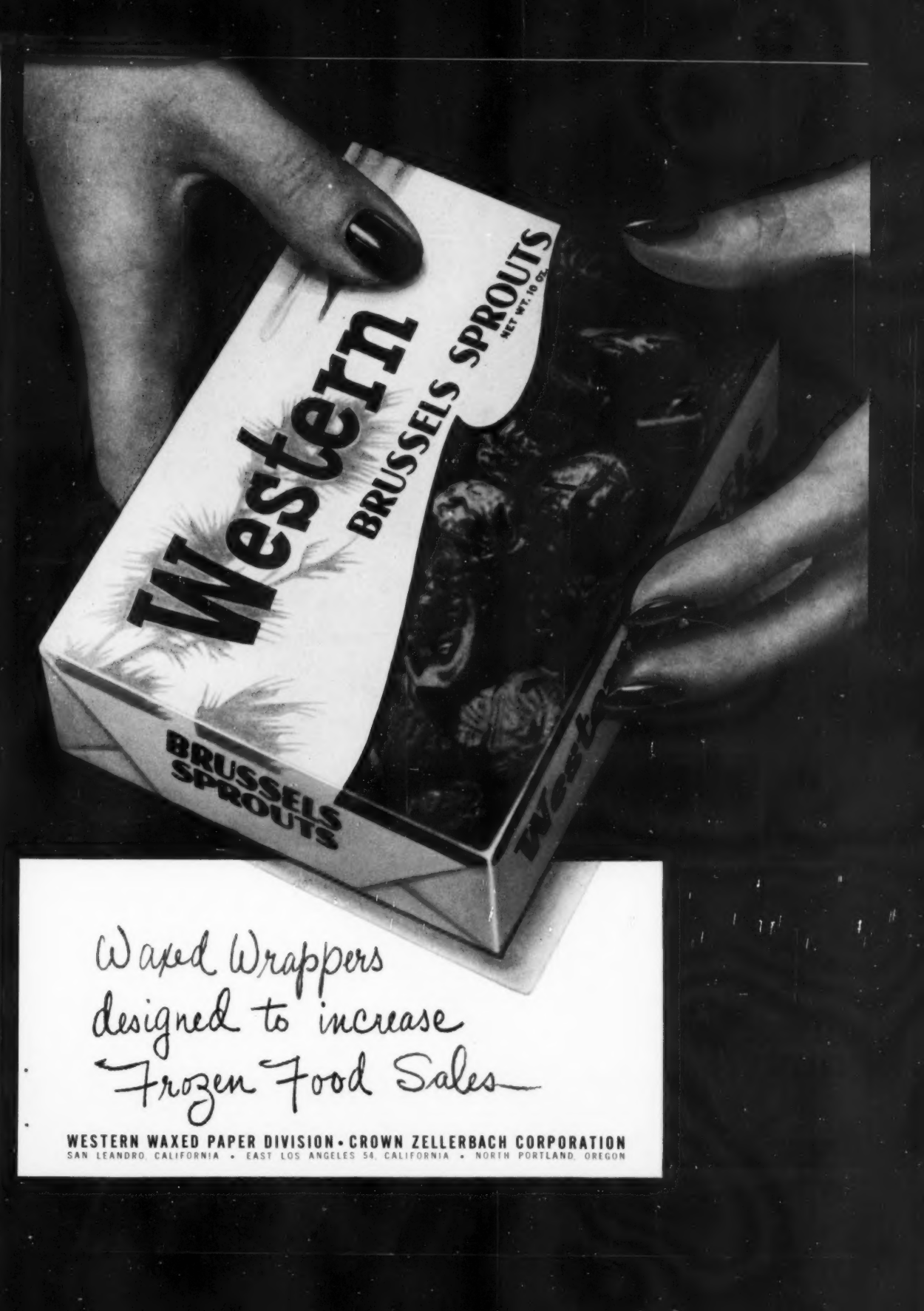


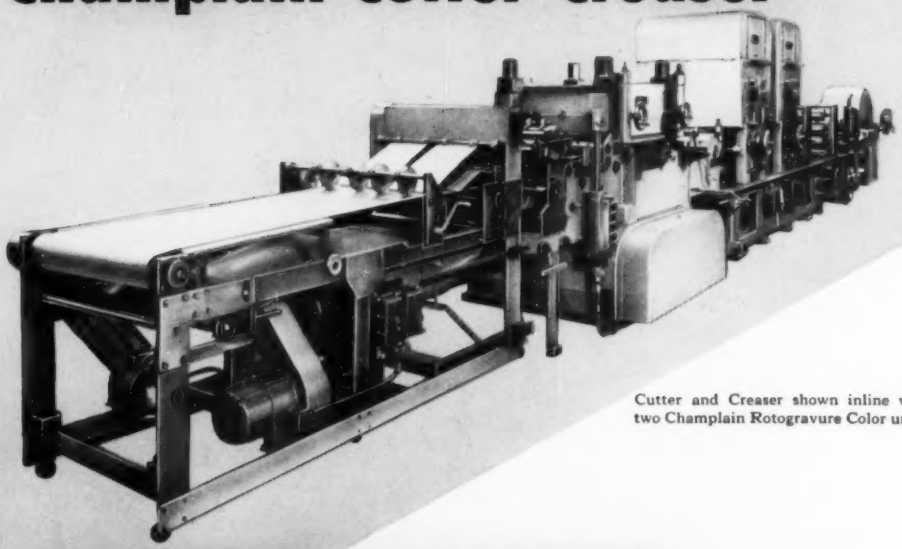
Waxed Wrappers
designed to increase
Frozen Food Sales

WESTERN WAXED PAPER DIVISION • CROWN ZELLERBACH CORPORATION

SAN LEANDRO, CALIFORNIA • EAST LOS ANGELES 54, CALIFORNIA • NORTH PORTLAND, OREGON

From this NEW *roll-fed*

Champlain Cutter-Creaser



Cutter and Creaser shown inline with two Champlain Rotogravure Color units.

PLATEN PRESS QUALITY CARTONS
at better than cylinder press speeds

At last—a Cutter-Creaser that puts the manufacture of high quality but low-cost cartons well within the reach of *all* carton makers. In one pass, it cuts, creases, and automatically strips cartons from a continuous web—and brings to the carton manufacturer all these PLUS advantages:

- **INCREASED PRODUCTION RATE** . . . 7,500 to 10,500 impressions per hour.
- **MAXIMUM QUALITY** . . . the high quality of platen press cutting and creasing—at better than cylinder press speeds.
- **THOROUGH AUTOMATIC STRIPPING** . . . all intricate internal and interlocked scrap is stripped and carried away *automatically*.
- **LOW DIE COST** . . . with inexpensive steel rule and block or jig dies.
- **CONSISTENT ACCURACY** . . . patented intermittent feed insures uniform accuracy, even at highest speeds.
- **MINIMUM DOWN TIME** . . . changing of dies and make-ready is only a matter of minutes.

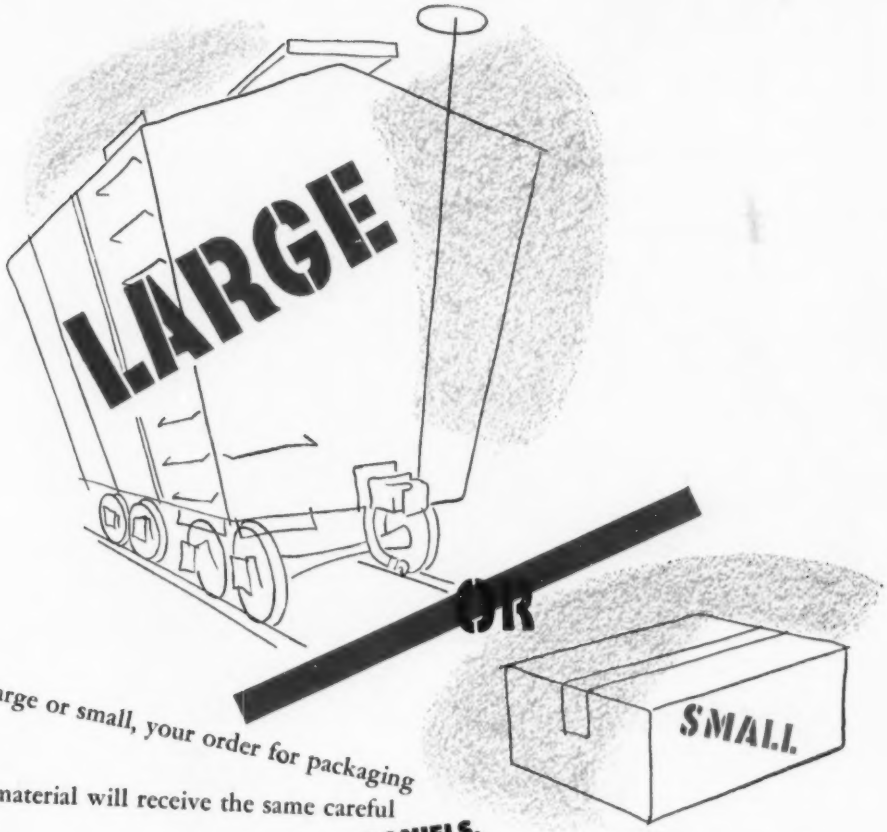
By itself, this new Cutter-Creaser has no equal. But when used *inline*—with rotary printing equipment—you gain not only the advantages of the Cutter-Creaser but *all* these *additional* advantages:

- **ABSOLUTE MINIMUM HANDLING OF STOCK** . . . "once through the press" principle means no carting and storage between Multi-color Printing, Lacquering, Die-Cutting and Stripping.
- **IMMEDIATE INSPECTION OF FINISHED CARTONS** . . . from roll stock to finished cartons takes only a few seconds.
- **ACCURATE REGISTER** . . . quick, one-pass operation of all inline equipment allows no time for change in character of stock.
- **MINIMUM SET-UP TIME** . . . no die impression needed for printing register—dies and plates are pre-matched.

Champlain

Champlain manufactures a complete line of rotogravure, flexography, rotary letterpress and allied equipment for packaging and specialty printing.

Write today for catalog of Champlain press equipment and full information on the Champlain Cutter-Creaser Champlain Company, Inc., 88 Llewellyn Avenue, Bloomfield, N. J. Chicago Office: 520 N. Michigan Avenue, Chicago 11, Ill.



Large or small, your order for packaging material will receive the same careful attention and appreciation at **DANIELS.**

Our planning starts with your product sales in mind. How successful we have been can best be demonstrated by a long list of clients who order and *reorder* from us regularly.

We invite Inquiries

Daniels

RHINELANDER, WISCONSIN

There is a **DANIELS** product to fit your needs printed in sheets and rolls . . . transparent glassine • snowdrift glassine • superkleer transparent glassine • lard pak • bacon pak • ham pak grease-proof • sylvania cellophane • laminated papers • special "Heat-Seal" papers.

PREFERRED PACKAGING SERVICE

SALES OFFICES: Rhinelander, Wisconsin
Chicago, Illinois . . Philadelphia, Pennsylvania . . Akron, Ohio
Denver, Colorado . . Dallas, Texas . . Los Angeles, California

creators · designers · multicolor printers

You wouldn't do this to your customer...

87% of the shopper's impressions are controlled by sight. You wouldn't expect her to buy blind-folded. Carry this further and you get the reason for today's ever-increasing demand for transparent cellulose film.

Wrapped in CELLOPHANE transparent film, merchandise is protected, looks good, attracts attention, but above all, CELLOPHANE lets the shopper **see** the goods and persuades her to buy.

Don't hide your product show it — in CELLOPHANE*

**CELLOPHANE is the registered trade mark of British Cellophane Ltd. in Great Britain, Australia, Ceylon, Eire, Hong Kong, India, Jamaica, New Zealand, Trinidad and Tobago, South Africa, Denmark, Iceland, Cyprus and Gibraltar.*

BRITISH CELLOPHANE LIMITED

Sales Offices: 12/13 CONDUIT STREET, LONDON, W.1. ENGLAND

Reg. Offices and Factory: BATH ROAD, BRIDGWATER, SOMERSET

Chase Bag makes

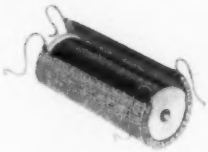
CHASE RED TYE DRAWSTRING BAGS

For mailing or storage of small, hard-to-pack items. Can be attractively printed! Wide range of cloth in any size or quantity required. CHASE is America's largest producer of drawstring bags!

CHASE DUPLEX NURSERY PAPERS

Made from crinkled kraft, laminated with asphalt. Comes in easy-to-handle rolls in assorted widths, and in pre-cut squares. Protects against sunscald, frost, rodents and abrasions!

all these products



CHASE RAYON BEAM COVERS

Constructed from burlap, adhesive and crinkled paper with strong draw-cords sewn in each end. Easily applied. Reduces freight costs! Reusable! A CHASE FIRST in packaging!

CHASE CARPET WRAP

Tough, economical, moistureproof. Applies quickly and easily. Helps eliminate costly telescoping. Protects shipments weighing up to half a ton and measuring 15 feet in length. A CHASE FIRST in packaging.

for the packaging

CHASE BALE CUPS

These burlap boxes telescope over all types of goods. They're moistureproof, pilferproof, and ideal for export shipment. Save insurance and labor costs. Pioneered by CHASE.

CHASE BARREL COVERS

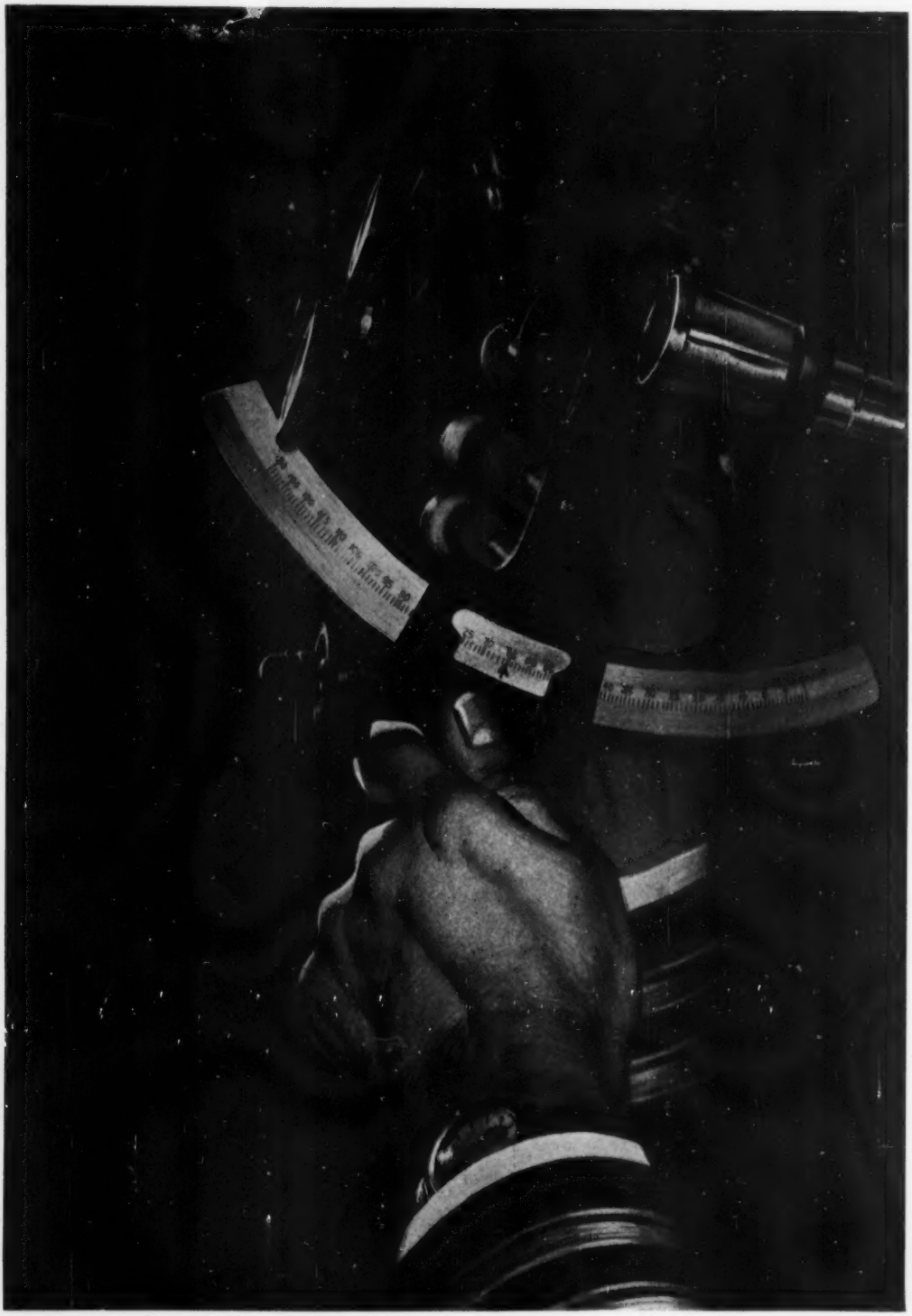
Constructed of neoprene-treated kraft—combines durability with great resistance to wet tears. Also available in asphalt laminated burlap, with sewn-in draw-cords. Another CHASE FIRST.

industry

CALL OR WRITE SPECIALTY DIVISION, CHASE BAG COMPANY FOR SAMPLES AND CURRENT PRICES ON ANY OF THESE PACKAGING PRODUCTS

CHASE BAG COMPANY

GENERAL SALES OFFICES: 309 W. JACKSON BLVD., CHICAGO 6, ILL.
30 BRANCHES AND SALES OFFICES STRATEGICALLY LOCATED



A dependable course to steer by...

Like the North Star—whose position is changeless—some companies are *known* for dependability . . . Their high standards and integrity single them out.

In business, these qualities in any firm you deal with contribute to your success in charting the progress of your own.

All this involves a relationship that transcends the mere filling of orders . . . with good materials . . . on time.

Since the turn of the century, many men at the helm of businesses, big and small, have put complete trust in the integrity of Canco.

Needing new and better containers for their products, they have looked to Canco's unequaled variety of technical skills, research, and services . . . its quick, sure solutions to special problems . . . its experience and facilities that no other manufacturer can match.

If you pack your products in containers, your course is clear. You'll be ahead if you . . .

Go first to the people who <u>are</u> first!

AMERICAN CAN COMPANY

CANCO

New York, Chicago, San Francisco; Hamilton, Canada

Canco's NEW Non-Drip Container, introduced at the National Packaging Exposition, is made entirely of non-critical materials. And note these important selling advantages: *No Breakage . . . Lower Shipping Costs . . . Around-the-Can Lithography* . . . PLUS . . . *No-Drip Feature.*

This container opens up new fields for such products as: cleaners and polishes . . . liquid detergents . . . salad oils . . . primers . . . hair tonics and shampoos . . . syrups . . . liquid starch.

It Pays to Look the Part

Products Packaged in Ridgelo Custom-Made Boxboard Enjoy Sales Shelf Appearance That's Always Outstanding

IN men's toiletries, as in every packaged product whose sales are affected by package appearance, leading manufacturers *know*—from experience—the advantages of Ridgelo. And the advantages are not limited to appearance alone. It is remarkably bright, comes in a wide choice of colors and finishes. But it also has qualities of perfect printing, smoothness, strength and rigidity that are no less unusual and important. Absolutely custom-made for every order, and absolutely uniform order after order, Ridgelo clay-coated boxboard is without a peer in its field.

FOR FINE FOLDING CARTONS

Ridgelo CLAY COATED BOXBOARDS REG. U.S. PAT. OFF.

Custom Made

MADE IN RIDGEFIELD, N. J. BY LOWE PAPER COMPANY

Representatives
H. B. Royce, Detroit
Philip Rudolph & Son, Inc., Philadelphia
A. E. Kellogg, St. Louis
Norman A. Buist, Los Angeles

on water-resistant adhesives for glossy stocks

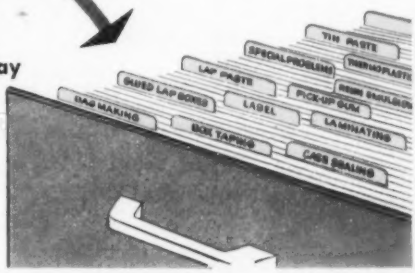
Ever try to strike a light on a damp matchbook? Your temper might flare but the matches won't. You might as well be out of matches as have a book with a damp striking strip. To matchbook manufacturers, it was important to beat this problem.

The way it *was* beaten may solve *your* adhesive problems with glossy-stock papers. A simple switch to DAREX Resin Emulsion Adhesive was the answer. It holds the grit on high-gloss matchbooks *tightly in place* — despite perspiration or wet weather.

With DAREX Resin Emulsion Adhesive, you get quick grab, with fibre tear in minimum compression time, whether the stock is glossy or porous. You get extreme water-resistance. And you get *economy*, too, because of its high speed and high yield.

But — why not test these advantages yourself . . . in *your* plant, on *your* stock? There is no obligation. Write on your letterhead for a generous sample, today.

The solution to *YOUR* adhesives problem may be in our files *NOW!*



DEWEY and ALMY
Chemical Company

Cambridge 40, Mass. — Montreal 32, Canada
Chicago 38 — San Leandro, Calif

Look to LYNCH for BETTER Packaging

It takes a *great many* different things to make up *really* better packaging. Improved package appearance is only one of many goals to consider. For instance, it may be that your major problem is saving manpower or reducing maintenance costs—improving general operating efficiency.

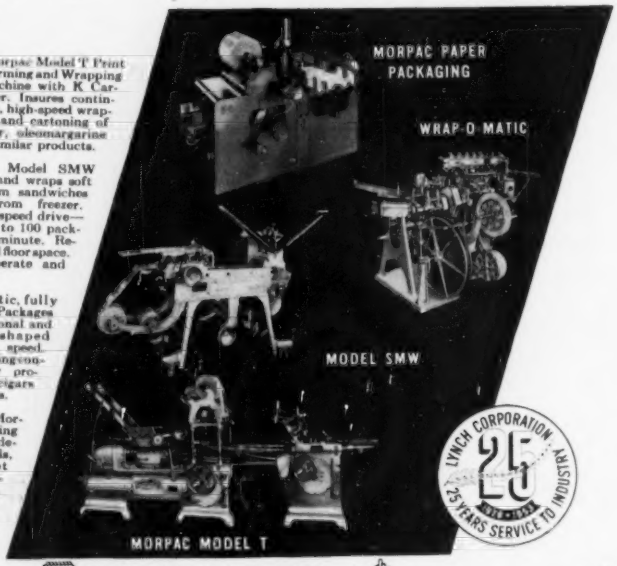
Whatever the problem—where *better* packaging is concerned—Lynch engineers have had the experience needed to solve it. For more than twenty years, Lynch engineers have worked with industry in providing *better* packaging, measured by any of the many standards of performance. They're ready to help you, too, at any time. Just call or write.

Morpac Model T Print Forming and Wrapping Machine with K Cartoner. Insures continuous, high-speed wrapping and cartoning of butter, oleomargarine and similar products.

Lynch Model SMW makes and wraps soft ice cream sandwiches direct from freezer. Variable speed drive—wraps up to 100 packages per minute. Requires small floor space. Easy to operate and maintain.

Wrap-O-Matic, fully automatic. Packages both conventional and irregularly shaped items at high speed. Used for packaging confections, bakery products, pencils, cigars and other products.

Fully automatic Morpac Paper Packaging machine, especially designed for paper mills, converters, tablet manufacturers, publishers and printers. Wraps or bands pads, reams and other rectangular objects.



PAR AIR COMPRESSORS

ICE CREAM SANDWICH WRAPPING MACHINES

WRAP-O-MATIC CANDY & COOKIE WRAPPING MACHINES

LYNCH CORPORATION
PACKAGING MACHINE DIVISION
TOLEDO, OHIO . . . Branches—NEW YORK
CHICAGO • SAN FRANCISCO • LOS ANGELES
ATLANTA • DALLAS • TORONTO

MORPAC PAPER PACKAGING MACHINES

MORPAC BUTTER & OLEO PACKAGING MACHINES

GLASS FORMING MACHINES

EXPORT DEPT.: 13 East 40th St., New York 16, N. Y. • Cables: ARLAB

HIGHEST QUALITY ALUMINUM FOIL

...manufactured in one of America's most modern foil plants where a sincere effort is made to meet the customers' needs.

ALUMINUM FOILS, INC.

Glamorous new squeeze bottles sell cosmetics

It's easy to see why squeeze bottles of BAKELITE Polyethylene are perfect for packaging lotions and liquid cosmetics. They won't crack or break if dropped. They won't leak. They keep contents fresh and safe until gentle hand pressure forces out a drop or spray.

And beauty preparations need beautiful packaging. That's another reason why designers are using BAKELITE Polyethylene for an endless variety of unusual shapes, broad range of attractive colors, and special surface effects such as stippling, cross-hatching, and other pleasing textures.

For example . . . these bottles (foreground) for Max Factor "World of Beauty" hand lotion. The flask is glossy, with all lettering surface-molded. The ball has a slip-proof frosted surface. Both are colored blue to match the contents.

BAKELITE Polyethylene is used just as successfully for scores of other packaging jobs—as sheeting and film, as coatings for paper, foil, and cloth, or molded into containers, closures, and dispensing devices.

Why do we advertise a material that's in short supply? Because we know that it takes time to perfect your products of tomorrow . . . Because we have a material worthy of your consideration—tough, flexible, easily molded, resistant to chemicals, light in weight. Because, by the time you have completed your product development, we will have made substantial progress with our extensive plant expansion program.

Max Factor "World of Beauty" hand lotion containers by Plax Corporation.

BAKELITE
TRADE-MARK
POLYETHYLENE
TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
In Canada:
Bakelite Company (Canada) Ltd., Belleville, Ont.

The ultimate of quality, care, craftsmanship ...go into *Rowell Boxes*

The creative art of the master pottery-maker finds its counterpart in the exacting skill Rowell devotes to making fine set-up boxes . . . a skill known by packagers everywhere.

E. N. Rowell Co. Inc.

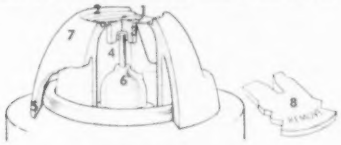
Mfrs. Fine Paper Boxes
Batavia,
N. Y.

SCHRADER TRIPLE-TESTED VALVES MEAN LOWER REJECTION RATES

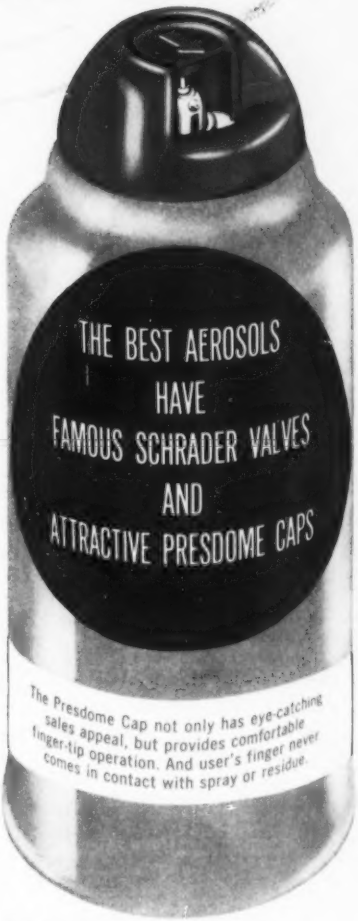
Aerosol loaders who have used vast numbers of Schrader Valves have found lower rejection rates, because Schrader Aerosol Valves receive the most thorough inspection. They're triple-tested . . . every critical component part 100% machine tested for correct tolerances. Low rejection rates mean lower costs. And the elimination of 'dud' returns from retailers protects the reputation of your product.

No Aerosol Product is Better than its Valve—No Valve is Better than Schrader's

Schrader produces Aerosol Valves with fully automatic machinery . . . maintaining complete control of production, because nothing but raw materials are bought outside. Schrader even makes its own metal closures.



1. Arrow points clearly to direction of spray
2. Flexible operating portion of Presdome is countersunk
3. Solid button recessed for valve pin
4. Valve pin designed for positive spray shutoff
5. Solid plastic dome grips closure shoulder permanently —no slipping or turning
6. Famous Schrader seating principle is used in the valve
7. Caps available in various colors to match your label . . . by request
8. Special tamper-proof locking tab is available


THE BEST AEROSOLS
HAVE
FAMOUS SCHRADER VALVES
AND
ATTRACTIVE PRESDOME CAPS
The Presdome Cap not only has eye-catching sales appeal, but provides comfortable finger-tip operation. And user's finger never comes in contact with spray or residue.

Schrader
REG. U. S. PAT. OFF.

AEROSOL VALVES made by the manufacturer of the Standard Tire Valve since the first Automobile

Use our research facilities to develop a superior Aerosol package. Send for samples and further information.

MAIL THIS COUPON TODAY

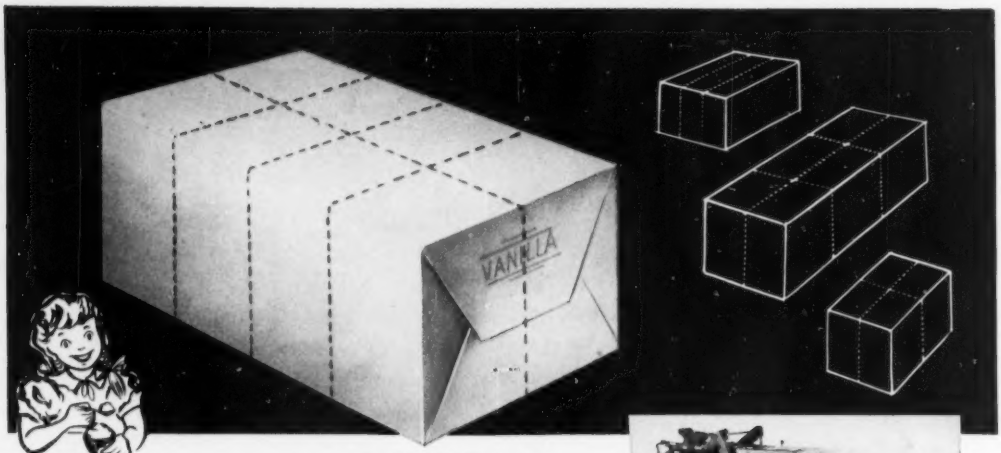
A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, N. Y. Dept. MP

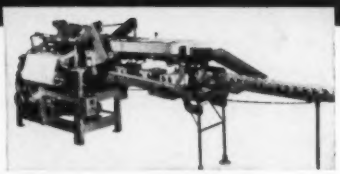
Please send me ☐ Samples ☐ Brochure ☐ Price List

Name _____ Title _____

Company _____

Address _____





Wrap 'em in a **BUNDLE** *instead of a box!*

SAVE TIME, LABOR, MONEY with a Hayssen AUTOMATIC ACCUMULATOR and BUNDLE WRAPPER

The Hayssen Accumulating and Bundling Machine will pay for itself quickly because of its surprisingly low first cost, (half of what you'd expect) and the elimination of expensive cardboard cartons, boxes and other containers. A multiple number of packages are automatically accumulated and inexpensively wrapped into an easily-handled kraft paper package at remarkable speed . . . and with the smooth, dependable operation typical of Hayssen wrapping machines.

A PROVEN BIG MONEY-SAVER . . . MONEY-MAKER

for Manufacturers of Ice Cream, Toiletries, Drugs, Candy, Crackers, and many other cartoned products

There's a strong demand for this Hayssen machine because it means a substantial saving of time, labor and money . . . meets today's need for reduced packaging and shipping costs.

The Accumulator and Bundler can be installed with a Hayssen Automatic Individual Wrapping Machine, thus saving floor space. Conveyor lines can be added to this DUAL-PURPOSE unit, making the entire operation completely automatic, thus eliminating labor problems. If your purse and production volume require it, any part of the accumulating may be accomplished manually.

FIND OUT HOW you can help beat high labor costs and inflation problems with Hayssen Automatic Machines. *WRITE for further details. Tell us your wrapping problem—we have the answer.*

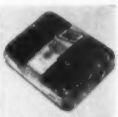
IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen MFG. COMPANY

Dept. MP-6, SHEBOYGAN, WISCONSIN

Since 1910, One of the World's Largest Manufacturers of Wrapping Machines

BAKED GOODS


MEATS

TEXTILES

VEGETABLES

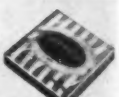
FROZEN FOODS

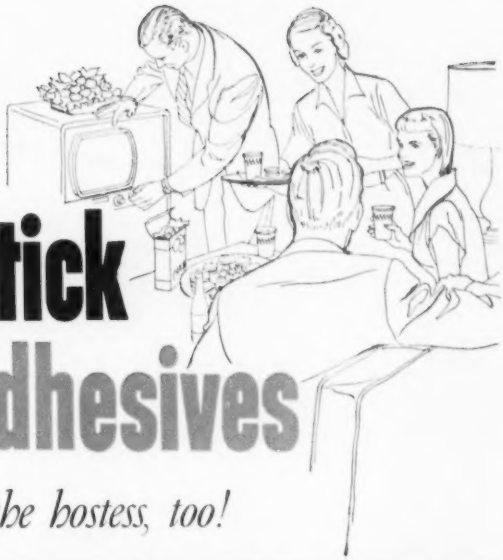
ODD SHAPES

CANDY

ICE CREAM

DAIRY


PAPER



It's smart to stick with Swift's Adhesives

They serve you and the hostess, too!

As in other fields, Swift's Adhesives are used by many of the manufacturers who produce for the millions and millions of America's housewives—at work and at play. Swift's varied line includes adhesives for fabricating and sealing food and candy packages . . . for labeling bottles and jars . . . for these applications and many more.

When you need adhesives, always remember—

- Swift has years of specialized experience in adhesives production.
- Swift works with a broad range of quality raw materials.
- Swift has extensive adhesives manufacturing facilities from coast to coast.

Three adhesives for packaging operations:

Swift's Top and Bottom Adhesives: Fast setting, clean machining.

Swift's Tite-Wrap Adhesive: Quick tack, non-warp.

Swift's Case Sealing Adhesives—designed for both high speed machines and hand application.

The Duncan Hines Cake Mixes, manufactured by Nebraska Consolidated Mills Co., Omaha, Neb., under license by Hines-Park Foods Inc., Ithaca, New York, are sealed with Swift's #1262 Adhesive . . . assuring a tight, sift-proof, well constructed package.

Swift & Company
Adhesive Products Department
Chicago 9, Illinois

This offer expires July 31, 1953

Please send your 100-lb. introductory trial shipment of:

- ☐ Swift's #1262 Liquid Carton Sealing and Tite-Wrap Adhesive
- ☐ Swift's Case Sealing Adhesive for Hi-Speed Machines
- ☐ Swift's Case Sealing Adhesive for hand application

} At the quantity prices

These will be tested for use in our operations. We understand, if not fully satisfactory, they may be returned for credit at your expense.

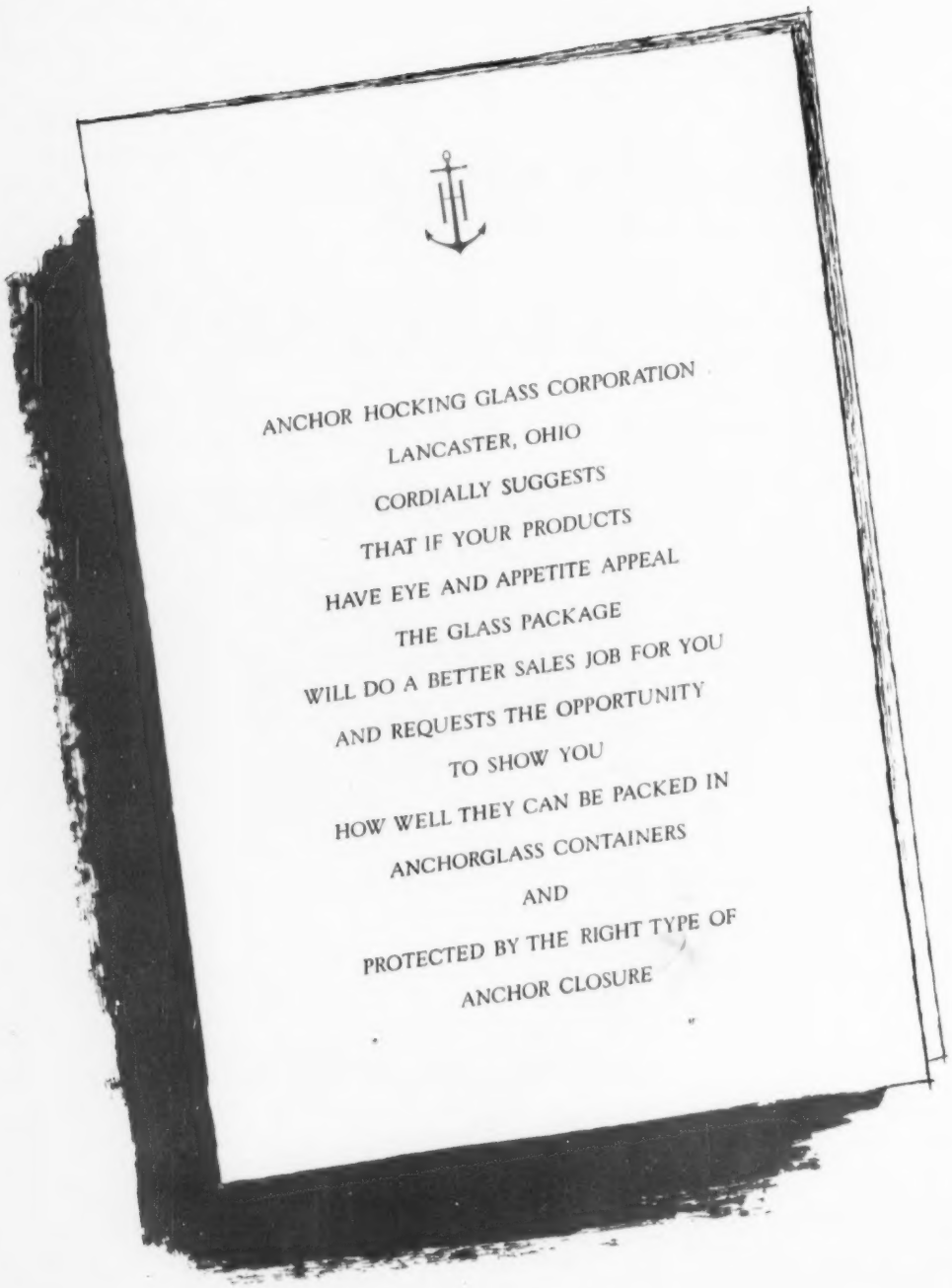
Name _____ *Title* _____

Firm Name _____

Address _____

City _____ *Zone* _____ *State* _____

Call SWIFT first for ADHESIVES


ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO
CORDIALLY SUGGESTS
THAT IF YOUR PRODUCTS
HAVE EYE AND APPETITE APPEAL
THE GLASS PACKAGE
WILL DO A BETTER SALES JOB FOR YOU
AND REQUESTS THE OPPORTUNITY
TO SHOW YOU
HOW WELL THEY CAN BE PACKED IN
ANCHORGLASS CONTAINERS
AND
PROTECTED BY THE RIGHT TYPE OF
ANCHOR CLOSURE

Satisfaction rests on the carton

Johnson & Johnson sells the same quality that shippers look for in Union Corrugated Containers—protection. Union boxes are strong and dependable. They are where you want them, when you want them. Consider this definite evidence of Union superiority: More than half the major users of shipping containers who maintain their own package testing laboratories are satisfied Union customers.

TRADE MARK
UNION
INTEGRATED PLANNING
INTEGRATED PRODUCTION

UNION BAG & PAPER CORPORATION

CORRUGATED CONTAINER DIVISION • Box Plants: Savannah, Ga., Trenton, N. J., Chicago, Ill.

Eastern Division Sales Offices: 1400 E. State St., Trenton 9, N. J. • Southern Division Sales Offices: P.O. Box 570, Savannah, Ga.
Western Division Sales Offices: 4545 West Palmer, Chicago 39, Ill. • Executive Offices: Woolworth Bldg., New York 7, N. Y.

RADO PACKAGES

OPEN
AMAZING
NEW
SALES
POSSIBILITIES

RADO PACKAGES* are the sort of things Sales Managers and Marketing Directors dream of but rarely find—practical, radically new, low-cost packages that ideally lend themselves to all-out consumer promotion.

If you feel your product could benefit from this *new type of packaging* that is novel, practical, low cost and wonderfully responsive to consumer promotion, write to the Main Office of Technopol Laboratories, or to the Packaging Service Station nearest you for additional facts.

WARNING

We have been informed that an individual, with intent to deceive, canvasses with samples either produced by one of our associated servicing stations or by infringement of our Patents, alleging that he is the inventor of the process for the production of articles as shown in this illustration.

We should appreciate any information from those to whom this individual reveals himself in connection with the foregoing.

*U.S.A. Patent Nos. 2,517,027, 2,530,400
British Patent Nos. 599174, 599183
Patented in 36 other countries. Other patents pending.

TECHNOPOL LABORATORIES LIMITED

Tel: London Wall 9452-9453 • 212 St. John Street, LONDON, E. C. 1, England • Cables, Telabor, London

Packaging Service Stations:

S. AFRICA
UNIVERSAL PLASTIC PACKS (PTY.) LTD.
43/44, Menteith House,
Smith Street, DURBAN.

SWITZERLAND
GISIGER & CO. A.G.
Office: Pelikanstrasse 37
Zürich I
Tel: 051.27.24.47
Factory: Obfelden.

ITALY
GISIGER & PATRIZI S.p.A.
Piazza Santa Felicita 4
Firenze

AUSTRALIA
DIE CASTERS LTD.
Collingwood N.5.,
Victoria

GERMANY
VERPACKUNGS-TECHNIK G.m.b.H.
Frankfurt-Griesheim
Stadtweg 55

FRANCE
(Algiers, Tunis, Morocco)
S. E. P. (Soc. d'Emballages Plastiques)
Office: 87 Rue Notre-Dame-des-Champs,
PARIS 6e. Phone
ODEON 71-33.
Factory: 24 Avenue de la Republique CHATOU.
France. Tel: 274.

AUSTRIA
Tupla Gesellschaft, Vienna
IV., Wiedner Hauptstrasse 8
Telephone: A 34067

BELGIUM
(Holland, Luxemb'g, Belgian Congo)
S. E. P. (Soc. d'Expansion des Matières Plastiques)
Office: 41 Rue de la Vallee,
GAND.
Tel: 594.96.
Factory: 68-7 Rue de l'Agrafe,
BRUSSELS.
Tel: 22,19,32.

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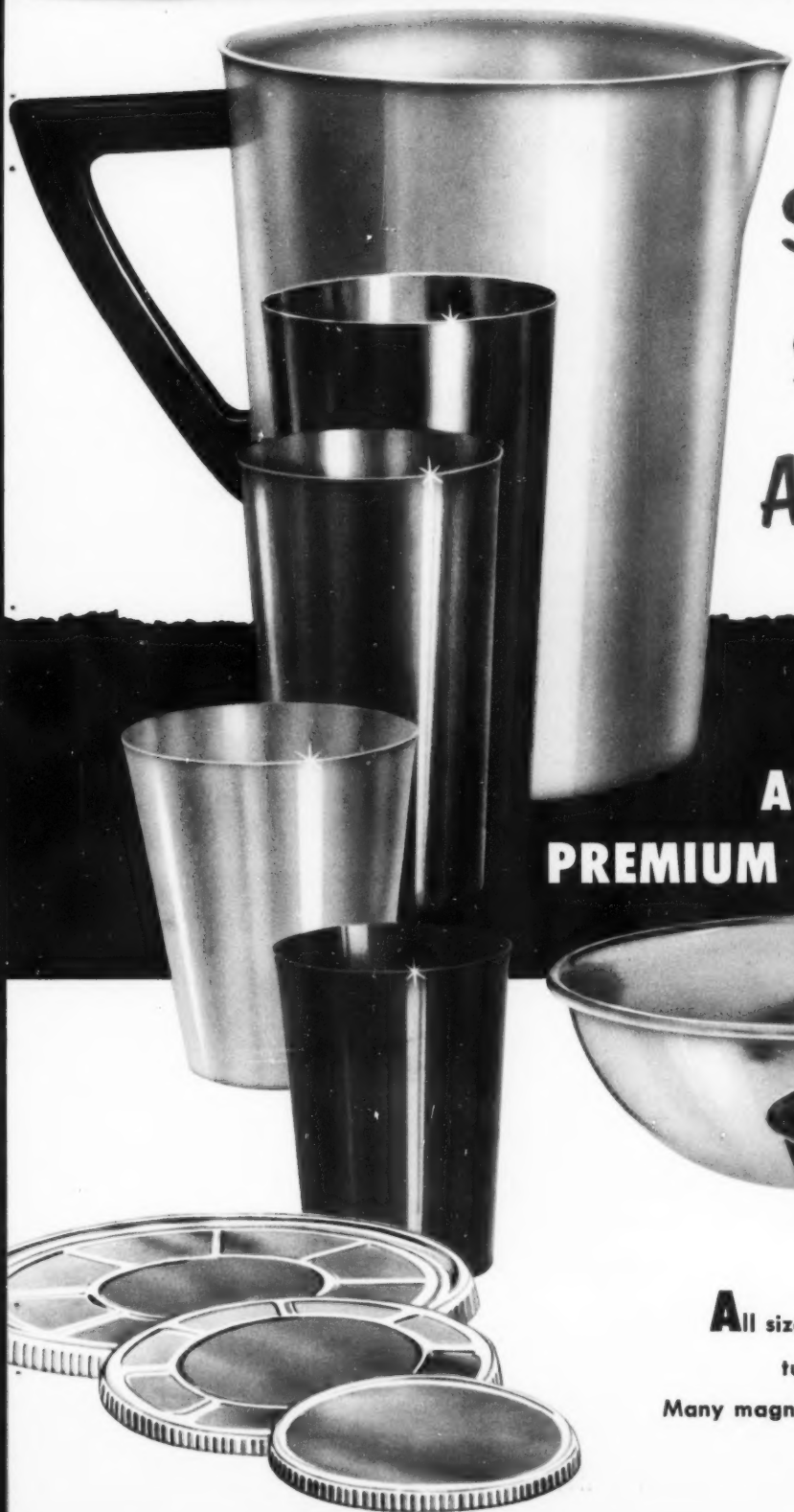
TECHNOPOL PACKAGING SERVICES, 81/2 Aungier Street, DUBLIN. Tel. Dublin 53524



Sealable!
Salable!
Available!

Bascal
ALUMINUM
PREMIUM PACKAGES!

All sizes and styles of
tumblers and bowls!
Many magnificent anodized colors!

JUST NAME YOUR SIZE, YOUR COLORS, YOUR STYLES—

Basca boosts your sales with anodized aluminum packages!

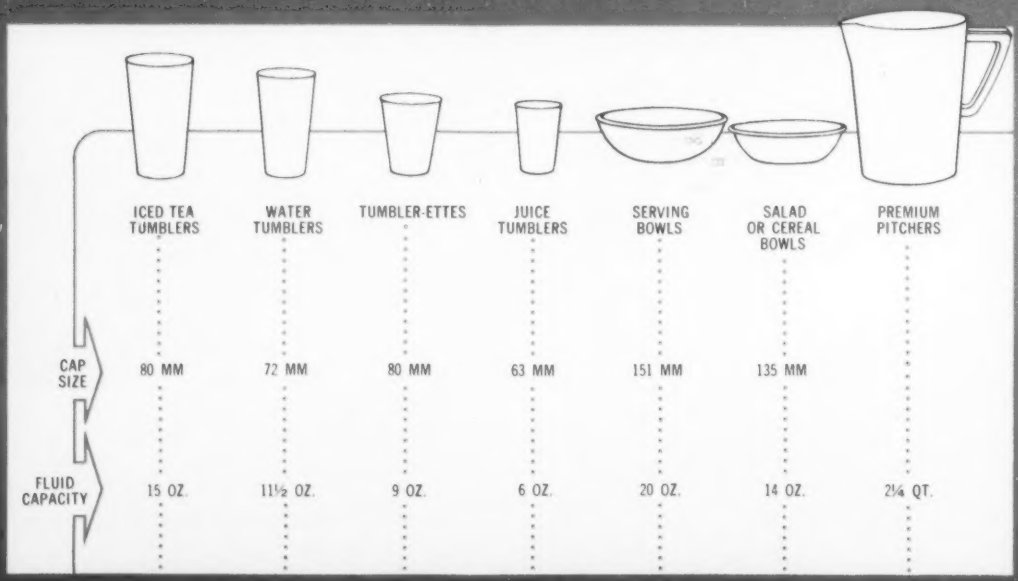
- **Proved by successful promotions from coast to coast**
- **Size and style variety for constant year-round programs**
- **Eight magnificent colors for continuing interest and business**
- **Special lining or coating for any food—dry or liquid or solid**
- **Vacuum, pressure or liquid tight sealing**
- **Any quantity**
- **Guaranteed quality and delivery**

Basca gives you everything you need for easy, economical, continuing premium package promotions—four complete sets of tumblers, two full sets of bowls, plus a special premium pitcher!

They're all anodized aluminum, the most practical package available. They won't crack or break—color won't chip, fade or transfer. Designs are smart and modern, slightly tapered to stack together in smallest space. And there are many different colors throughout the line, so every buyer can build a complete matched set.

You'll find any one or all of these packages sell on sight, sell continuously, build up demand month after month.

Check your needs on the chart below. And write for full details—and proof of Basca sales successes.



BASCA MANUFACTURING COMPANY · DIVISION OF BUTLER'S · 2222 N. OLNEY ST., INDIANAPOLIS, INDIANA

When you want the Facts to speak for themselves . . .

Sheaffer's TM with the SNORKEL
SHEAFFER'S
Fills with one-stroke TOUCH DRY action
SNORKEL The magic tube that fills pen without dunking.

. . . use TRANS-VISION*

A salesman can only talk about a product—Trans-Vision sells it from the inside out.

Multicolor printing sharply reproduced on crystal-clear Celanese* acetate pages makes it possible to disassemble the product . . . see below the surface in the most graphic way possible. So perfect is this method of education that Trans-Vision is used extensively for medical and other science instruction.

A trademarked product of Milprint, Inc., Trans-Vision depends on the unfailing clarity and dimensional stability of Celanese acetate transparent film . . . its flat-smooth, cockle-resistant surface . . . resistance to stretching or shrinking . . . and excellent aging characteristics. These same qualities account for the popularity of Celanese acetate for high fidelity recording tapes, high vacuum metal coating, and many other precision applications.

Celanese Corporation of America, Transparent Films Dept. 108-F, 290 Ferry Street, Newark 5, New Jersey.

Canadian affiliate, Canadian Chemical & Cellulose Company, Ltd., Montreal and Toronto.

Celanese*

*Reg. U. S. Pat. Off. TRANSPARENT FILMS

From the Gardner Gallery of famous American Packages

An Attitude

. . . THE UNSEEN INGREDIENT

Actually, it *can* be seen. Look closely at any product that has become an American buy-word—and you'll see more than the physical materials of which it is made.

You'll see the attitude of men determined to make and market a superior product. Look closely at any Gardner carton—and you'll see reflected that very same attitude.

Here at Gardner we believe in never being quite satisfied with a good job. We feel an obligation to ourselves—and to our customers—to do even better, tomorrow, what we have gained recognition for doing well today.

We think that's an important reason why you'll find so many of America's most famous products packaged in Gardner cartons.

THE GARDNER BOARD AND CARTON CO.

Manufacturers of Folding Cartons and Boxboards

GENERAL OFFICES: Middletown, Ohio—PLANTS: Middletown, Ohio; Lockland (Cincinnati), Ohio
Sales Offices in Chicago, Cleveland, New York, Philadelphia, Pittsburgh, St. Louis

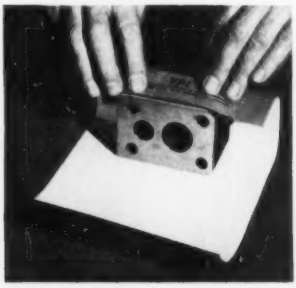
GARDNER ®

Which of these PACKAGING IDEAS will cut *your* costs?

Stronger Wrap for Big Packs

Angier's new Glass Wrap is reinforced with strong glass fibres to give *better* protection at less cost. Waterproofed; flexible; up to 96" wide.

☐ *Check here for facts.*



Vapor-from-Paper STOPS RUST

Saves greasing metal parts. Saves degreasing. It's Angier VPI® Wrap.

☐ *Check here for facts.*

Center-seam Sealing with Reinforced SNAKE TAPE

It's the *fast* way to seal cartons. And you get a *stronger* closure with only two strips because Snake Tape is reinforced to give strap-like strength! Center-seam sealing is accepted for parcel post, railway express, air express, and truck shipments; it also is accepted for carload and LCL rail shipments where rule 5, section 1 (c) of Uniform Classification applies.

☐ *Check here for FREE sample & facts.*

- *Reinforced*
- *Waterproofed*
- *Six widths*
- *Easily dispensed by "cut-off" type machines*

Our Industrial Papers Have Solved These Problems!

Can we help *you*?

☑ Check the ideas that interest *you* and send with letterhead to:
ANGIER CORPORATION
Framingham 11, Mass.

Angier

Since 1895 Manufacturers of Industrial Packaging Papers

Now...high-gloss flexographic printing

with BBD's EXCELLOBRITE INK

Snappy, sparkling impressions on polyethylene film can now be obtained in flexographic printing by using BBD's EXCELLOBRITE INK. Originally developed for high-gloss face-printing on cellophane, EXCELLOBRITE has been found through extensive research and field-testing to give the same lustrous results on polyethylene, too.

EXCELLOBRITE is a fully pigmented ink with the high color-strength characteristic of all BBD inks. It prints very clean and sharp on any type of flexographic press — with smooth or metered inking rolls — and can be run just like our regular EXCELLOPAKE inks at your usual press speeds.

EXCELLOBRITE meets all specifications for adhesion, flexibility and block-resistance . . . has the good working qualities that keep your wash-ups to a minimum. And it gives more mileage than regular non-gloss inks, too!

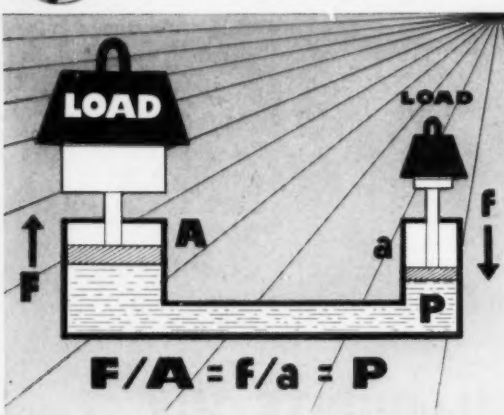
You can use BBD EXCELLOBRITE INK without alteration on both polyethylene (treated types) and cellophane (moistureproof heat-sealing, moistureproof and semi-moistureproof anchor-coated types) to get the new eye-catching surface gloss that places your work far above average.

EXCELLOBRITE is available in a full range of brilliant standard and special colors that overprint beautifully . . . are "tailor-made" to meet your specific requirements.

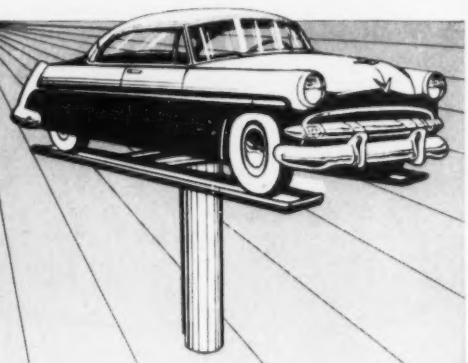
If you'd like more information about high-gloss EXCELLOBRITE INK — and convincing printed samples — contact your nearest BBD office or write to *Bensing Bros. & Deeney, 3301 Hunting Park Avenue, Philadelphia 29, Pa.*

● For real "shirt-sleeve" technical service call in a BBD flexographic ink specialist

Bensing Bros. and Deeney
SALES COMPANY
Flexographic Ink Specialists
PHILADELPHIA • CHICAGO • WAKEFIELD, MASS.
Pacific Coast: A. M. BOJANOWER, Los Angeles
Export: McLAURIN-JONES CO., New York
Canada: MANTON BROS., Toronto



PASCAL'S PRINCIPLE. Any increase of pressure at any part of an enclosed fluid is accompanied by an equal increase of pressure throughout the body of the fluid.



Typical applications of Pascal's principle are found in hydraulic lifts and hydraulic presses.

KVP

PAPERS for the FOOD INDUSTRY

ADDING DAYS to the flavor and freshness of foods by proper packaging was a great discovery.

Now, those days have been increased to weeks, to months, to years.

Again and again KVP paper scientists come up with the right answer on some baffling food protection problems. Again and again KVP artists produce wrapper designs that increase sales.

You are invited to solicit their help on your own packaging needs.

KVP

KALAMAZOO VEGETABLE PARCHMENT CO.

PARCHMENT, KALAMAZOO, MICHIGAN

ASSOCIATED COMPANIES:

KALAMAZOO VEGETABLE PARCHMENT CO.
DEVON, PENNSYLVANIA

KVP COMPANY OF TEXAS
HOUSTON, TEXAS

HARVEY PAPER PRODUCTS CO.
STURGIS, MICHIGAN

IN CANADA:

THE KVP COMPANY LIMITED
ESPANOLA, ONTARIO

APPLEFORD PAPER PRODUCTS LIMITED
HAMILTON, ONTARIO
MONTREAL, QUEBEC

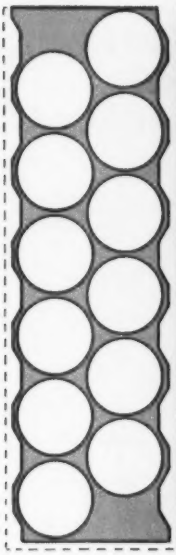
INDUSTRIES SERVED

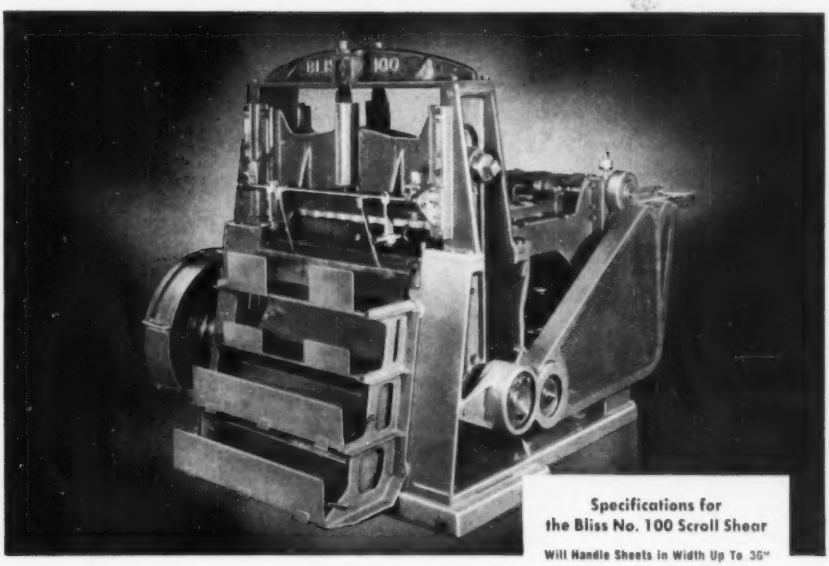
BAKING
Bread — Cracker
Cereal

MEAT
Packing — Locker
Retail

DAIRY
Butter — Cream — Cheese
Ice Cream — Milk

FISH • FRUIT • FROZEN FOODS
POULTRY • SHORTENING • VEGETABLE





Specifications for the Bliss No. 100 Scroll Shear

Will Handle Sheets in Width Up To	36"
Speed – Strokes Per Minute	100 to 120
Net Weight, Lbs.	7500
Motor	3. H.P.
Height From Floor	37¼"

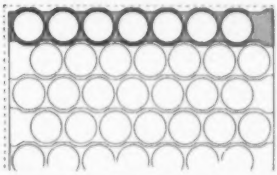
How to save 7% on scrap with the BLISS AUTOMATIC SCROLL SHEAR

Yes, by using the Bliss Automatic Scroll Shear, many leading can plants save up to 7% on scrap – and the illustrations on the right explain how it's done.

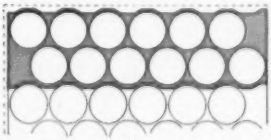
But this is only one of the features of the Bliss Shear. Look at these: the rigid body structure and heavy sliding members assure longer die life; the sheets are automatically and precisely located – insuring perfect registration; all operating mechanisms are *below* the table – lubricants never drip on and soil sheets; the shear can be arranged for plain or litho sheets, for automatic or hand feed.

If you're searching for low-cost, thoroughly-reliable can production, it will pay you to check the entire Bliss line . . . Write, wire or phone for complete details.

E.W. BLISS COMPANY, 50 Church St., New York 7, N. Y.



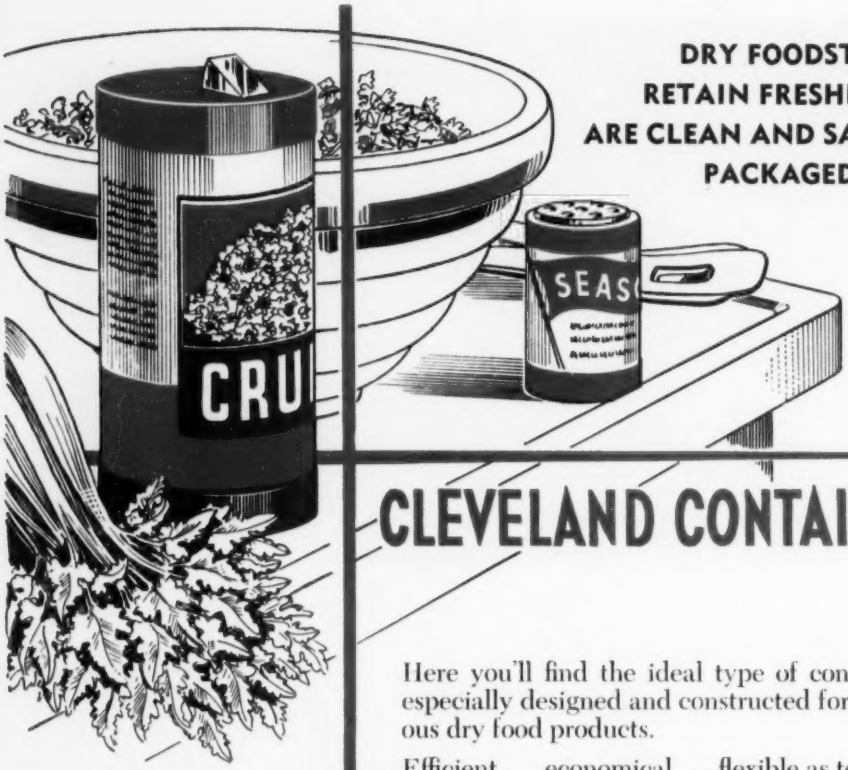
SINGLE ROW SCROLL STRIP offers savings over single strip method. In No. 1 can size, it saves 6.2%; in No. 2 size – 4.6%; No. 3 size – 1.3%. Two strips are blanked each stroke except the last.



DOUBLE ROW SCROLL STRIP – planned for double-die set-ups – gives even greater savings than above; can be used with Bliss Scroll Shears.

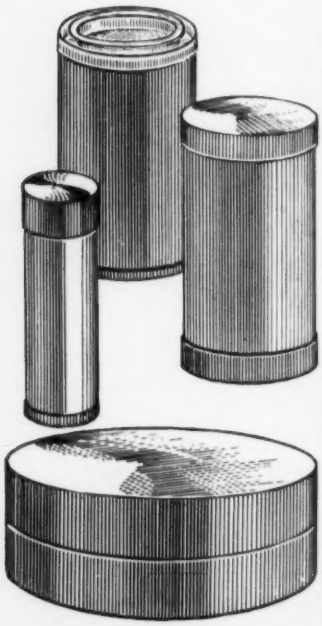
BLISS on your machine is more than a name . . . *it's a guarantee*

BLISS CAN AND CONTAINER MAKING MACHINERY



DRY FOODSTUFFS RETAIN FRESHNESS . . . ARE CLEAN AND SANITARY . . . PACKAGED IN

CLEVELAND CONTAINERS



Here you'll find the ideal type of container . . . especially designed and constructed for your various dry food products.

Efficient . . . economical . . . flexible as to unit sizes and exterior treatments.

Take tops for example: plain slip on, sealed by labeling . . . metal friction plug tops . . . turn sifter tops . . . semi-perforated tops . . . and pouring spout tops.

CLEVELAND CONTAINERS . . . unique, eye-compelling . . . mean more sales!

THE LARGE PRODUCTION CAPACITY of our conveniently located plants ensures prompt customer service . . . at LOW COST.

Why pay more? . . . for the best,
Call CLEVELAND!

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO
• All-Fibre Cans • Combination Metal and Paper Cans
• Spirally Wound Tubes and Cores for all Purposes

PLANTS AND SALES OFFICES: Cleveland, Detroit, Chicago, Plymouth, Wisc., Jamesburg, N. J., Ogdensburg, N. Y. • ABRASIVE DIVISION at Cleveland SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D. C.; West Hartford, Conn.; Rochester, N. Y. Cleveland Container Canada, Ltd., Prescott, Ontario • Offices in Toronto and Montreal

a well known packaging engineer asked us:

"Can you give me a laminated paper flexible enough to permit it to conform to the package . . . without harming the quality of the paper?"

Our laboratory said, "Yes!"

We went ahead and produced two new laminated papers—Flex-Lam and Flex-Fibre. Through embossing after laminating, these two sheets—one laminated, the other laminated and reinforced—are made flexible enough to conform . . . without harming the quality of the paper, the laminant or the glass fibres.

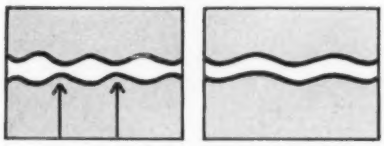
After examining and testing Cromwell's flexible-laminated papers in use, this packaging engineer said, "I cannot think of a single place where paper is used for packaging where flexible papers cannot do the job better!"

Cromwell flexible-laminated, waterproof papers are now being used to wrap furniture, newspapers, propeller blades, electric motors, sheet steel and hundreds of other products.

Write us for free samples and ideas *you* may be able to use in doing a better packaging job.

How Cromwell Retains Flexibility Without Sacrificing Strength

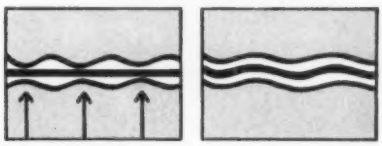
LAMINATED PAPER



Weak spots which occur when the peaks and valleys in kraft sheets do not coincide are eliminated by Cromwell process.

Cromwell Flex-Lam has uniform strength and flexibility throughout because kraft sheets are embossed *after* lamination. Note how paper contours and laminant weave evenly together.

LAMINATED—REINFORCED PAPER



Where glass fibres run straight between kraft sheets they are subject to strain at weak spots in paper.

In Cromwell Flex-Fibre, glass fibres are embedded in the asphalt and both kraft sheets embossed *after* lamination. Thus glass fibres conform to contour of paper and laminant for greater strength and flexibility.

CROMWELL
PAPER COMPANY
4801 South Whipple Street
Chicago, Illinois

Your packaging problems may be solved by returning this coupon today!

CROMWELL PAPER COMPANY, 4801 S. Whipple St., Chicago, Ill.

Send me without cost or obligation your new folder of Cromwell Laminated Paper samples—Flex-Fibre, Flex-Lam and Fibre-Kraft.

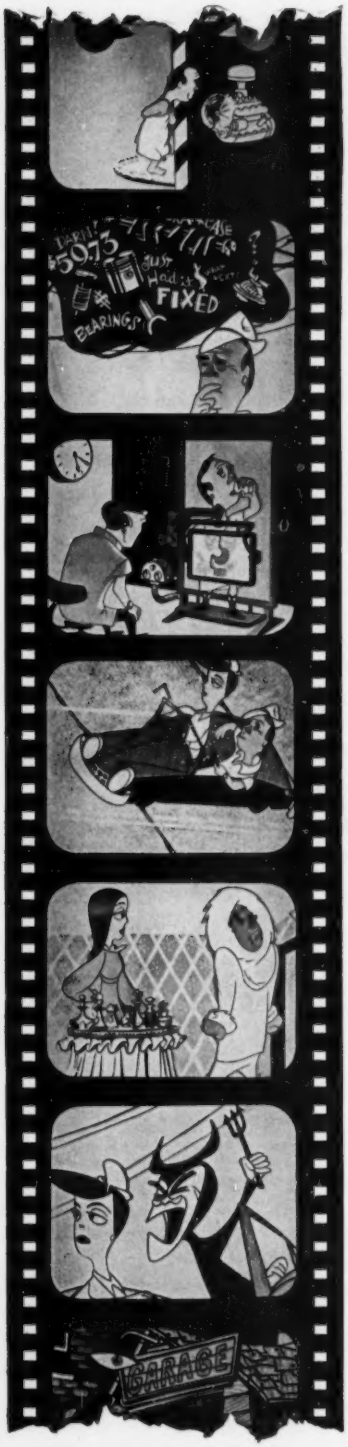
Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____

MP-5



At your age!

If you are over 21 (or under 101) it's none too soon for you to follow the example of our hero, Ed Parmalee, and face the life-saving facts about cancer as presented in our new film "Man Alive!". You'll learn, too, that cancer is not unlike serious engine trouble—it usually gives you a warning:

(1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits.
While these may not *always* mean cancer, any one of them should mean a visit to your doctor.
Most cancers are curable but *only* if treated in time!

You and Ed will also learn that until science finds a cure for *all* cancers your best "insurance" is a thorough health examination every year, no matter how well you may feel—twice a year if you are a man over 45 or a woman over 35.

For information on where you can see this film, call us or write to "Cancer" in care of your local Post Office.

American Cancer Society

MAN ALIVE! is the story of Ed Parmalee, whose fear weakens his judgment. He uses denial, sarcasm and anger in a delightful fashion to avoid having his car properly serviced and to avoid going to a doctor to have a symptom checked that may mean cancer. He finally learns what a difference it makes (in his peace of mind and in his disposition) to know how he can best guard himself and his family against death from cancer.

This is No Bull

But it Serves the SAME Purpose

A cow in a pasture in Ohio. A bull in a barn in Iowa. How are you going to bring them together for breeding? Science had the answer in artificial insemination . . . and Clearsite Plastic Containers proved the ideal package to send the bull to the cow by mail! There was no chemical reaction between the plastic and the contents while the saving in postage and shipping costs was considerable. Just one of hundreds of uses for these sanitary, feather-light, moisture-tight, shatter-proof containers. Available in many sizes and adaptable to various kinds of closures. (Special sizes also made to your specifications.) Any trade-mark or label can be multicolor printed right on the container. Write for literature and samples.

CELLUPLASTIC CORPORATION
General Offices: 50 Avenue L., Newark 5, N. J.

TRANSPARENT

Clearsite®

PLASTIC CONTAINERS
that Sell

®REGISTERED TRADE MARK

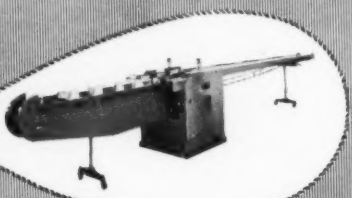
3 Types of CECO AUTOMATIC CARTONERS

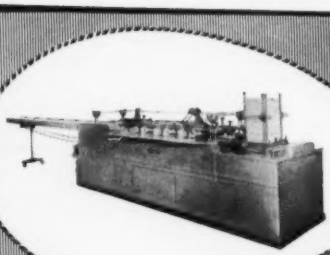
TRADE MARK REG. U. S. PAT. OFF.

... each in the LOW PRICE RANGE

CECO Model 3901

The most versatile and lowest cost adjustable carton glue sealer in the packaging business. Hundreds in successful operation for large and small concerns all over the world. Carton set-up and product insertion are manual. Cartons are closed automatically.



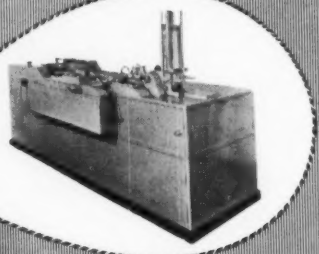


CECO Model 40

This low-cost adjustable cartoner provides automatic features heretofore available only on very expensive equipment. Sets up and closes cartons automatically. Product is manually inserted.

CECO Model 45

A fully automatic adjustable cartoner at unbelievably low cost. Sets up cartons, inserts single or multiple products, and closes cartons, all automatically. No other machine at any price offers such versatility, low-cost operation, and economy of upkeep.



Quick Delivery

Prefabricated standard components and modern assembly lines permit delivery of some standard models within two weeks.

All CECO Cartoners are adjustable quickly without special tools by unskilled help for a wide range of carton sizes. Economical for long or short runs. All models can glue-seal both ends, or seal one end and tuck the other, or tuck both ends. CECO Cartoners produce clean, square, stronger cartons at less cost and with less floor space. A CECO Cartoner generally pays back its low cost in less than a year. Let us prove it. Send for details.

CONTAINER EQUIPMENT CORPORATION

MEMBER, PACKAGING MACHINERY MANUFACTURERS INSTITUTE

78-88 LOCUST AVENUE, BLOOMFIELD 2, N. J.

PHILADELPHIA • BOSTON • CHICAGO • DALLAS • JACKSON
NEW YORK • SAN FRANCISCO • SAVANNAH • TORONTO

VLCHEK boxes good health

Antibiotics and other medicinal products made by Eli Lilly and Company, Indianapolis, packaged in transparent Vlchek Plastic Boxes, create attention. So clear that you can easily read the labels on the bottles . . . eyes immediately focus on these boxes and their contents.

Lilly salesmen gain valuable interest and increased acceptance from members of the medical profession by using these as demonstration boxes.

Vlchek boxes are designed to gain display space, increase sales at low cost for many products—cosmetics, cutlery, food, hardware, small parts and many others. There are a total of 548 different compartment arrangements for eight standard sizes. Specials with variations in shape, color, interior design and hinge design can be engineered to fit specific needs—and at stock box economy.

Our packaging specialists have solved problems for hundreds of companies. We will answer your inquiry promptly.

Eli Lilly and Company of Indianapolis use two types of Vlchek Plastic Boxes to display and sell, to protect also the medicinal products against loss and damage.

PLASTICS DIVISION

THE VLCHEK TOOL COMPANY

3001 East 87th Street • Cleveland 4, Ohio

Polyfilm

POLYETHYLENE FILM

better 4 ways

New POLYFILM *is here!* This improved, exhaustively-tested new film affords you these outstanding advantages:

1. **GAUGE UNIFORMITY**
2. **ECONOMICAL YIELD**
3. **PROCESS-ABILITY**
4. **CONSISTENT QUALITY**

Yes, Extruders' improved Polyfilm will save you money and time. Uniformity of gauge eliminates unnecessary waste . . . assures an economical yield within specified tolerances. The non-blocking, free-slip surface guarantees faster, easier processing. Best of all, Polyfilm quality is *consistent.*

Investigate new Polyfilm today!

Polyfilm

A PRODUCT OF

EXTRUDERS INC.

3232 W. El Segundo Boulevard, Hawthorne, California

Acme Steel announces

revolutionary new advance in wire stitching

NEW ARCUATE WIRE STITCH
NEW
Acme Steel Arcuate Stitching forms flat wire into arc for greater strength.
OLD
Ordinary flat-wire stitch has less holding strength than Arcuate Stitch of same wire size.
ORDINARY FLAT WIRE STITCH

In Acme Steel's new Arcuate stitching method, flat stitching wire is formed into an arc, increasing its column strength, making a smoother stitch with lighter wire, delivering up to 42% more stitches per pound of wire. Faster, too!

New Acme Steel Arcuate Stitching cuts wire costs 24 per cent

HERE'S HOW IT WORKS: Wire stitching has long been favored for assembling and closing of cartons of all types. Now "Stitching Headquarters"—Acme Steel Company—announces a new stitching method: Arcuate Wire Stitching.

In Acme Steel's new Arcuate Stitching method, regular flat stitching wire is formed into an arc by the stitching machine, making a stronger stitch so you can use lighter gauge wire for boxmakers' joints or any other stitching jobs. Increased column strength makes each stitch easier to drive. Stitches drive straighter, clinch better, hold tight.

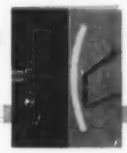
RESULT: You save 24% in wire costs. You get 42% more stitches from each coil of wire (using .103 x .014-inch instead of .103 x .020-inch wire, for example). Arcuate Stitching virtually eliminates machine jamming—reduces down time and produces perfect stitches more consistently. This means that you can stitch more cartons per day, and get a better-looking carton every time.

It's easy to adapt your present equipment. There are conversion parts-kits for most popular model stitching machines.

CALL your Acme Steel representative for all information. Or, for a free folder giving complete details and a stitched sample, write to Acme Steel Products Division, Dept. MP-63, Acme Steel Company, 2840 Archer Ave., Chicago 8, Illinois.

FREE →

Get the details . . . send in the coupon for a free folder on Acme Steel's new Arcuate Stitching.



ACME STEEL

STITCH IT . . . STRAP IT . . . SHIP IT . . . SAFELY!

ACME STEEL CO., Dept. MP-63
2840 Archer Ave., Chicago 8, Illinois

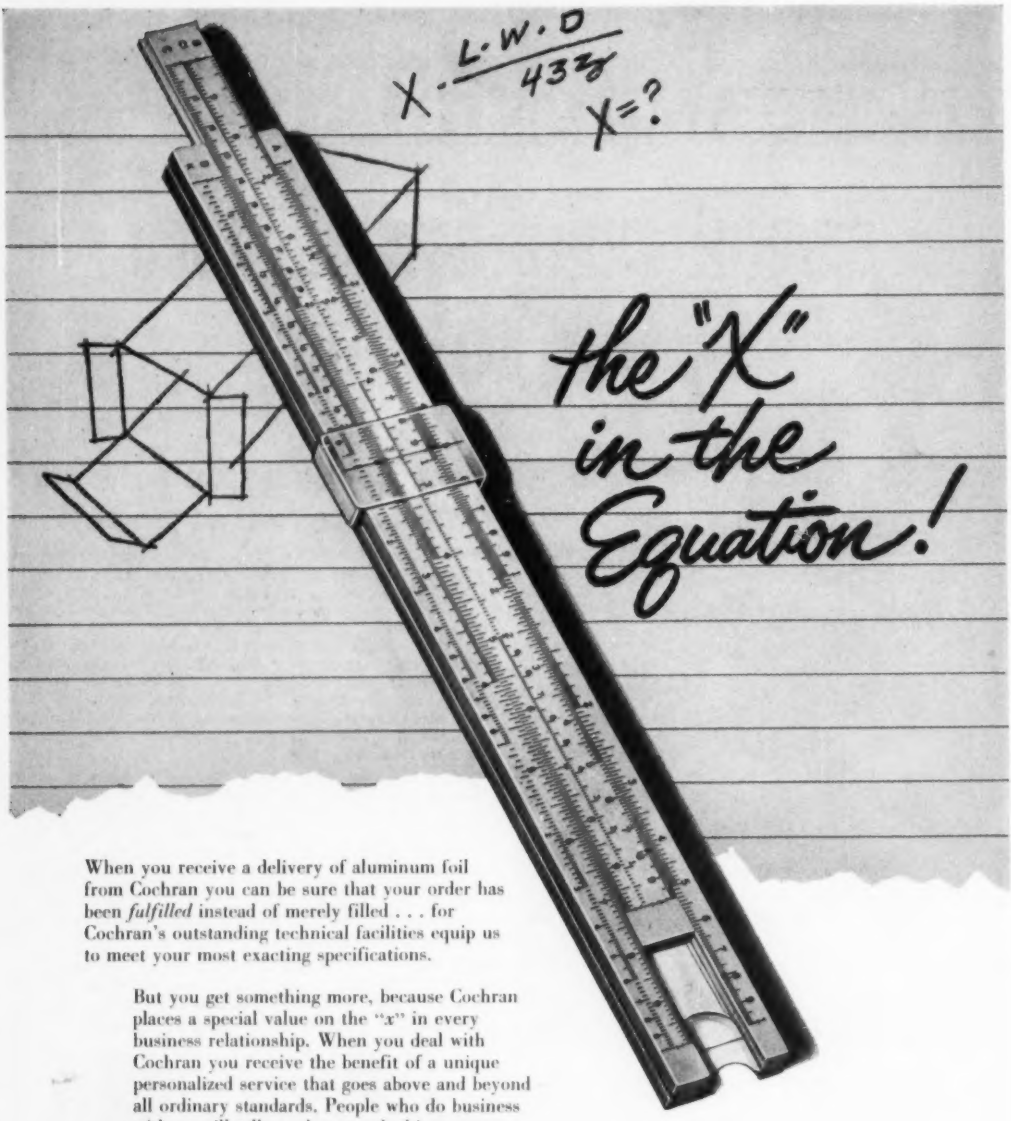
Please send me free copy of your new folder on Arcuate Wire Stitching and a stitched sample.

*Name*_____

*Company*_____

*Street Address*_____

*City*_____ *Zone*____ *State*_____



When you receive a delivery of aluminum foil from Cochran you can be sure that your order has been *fulfilled* instead of merely filled . . . for Cochran's outstanding technical facilities equip us to meet your most exacting specifications.

But you get something more, because Cochran places a special value on the "*x*" in every business relationship. When you deal with Cochran you receive the benefit of a unique personalized service that goes above and beyond all ordinary standards. People who do business with us will tell you how much this means.

Cochran FOIL COMPANY

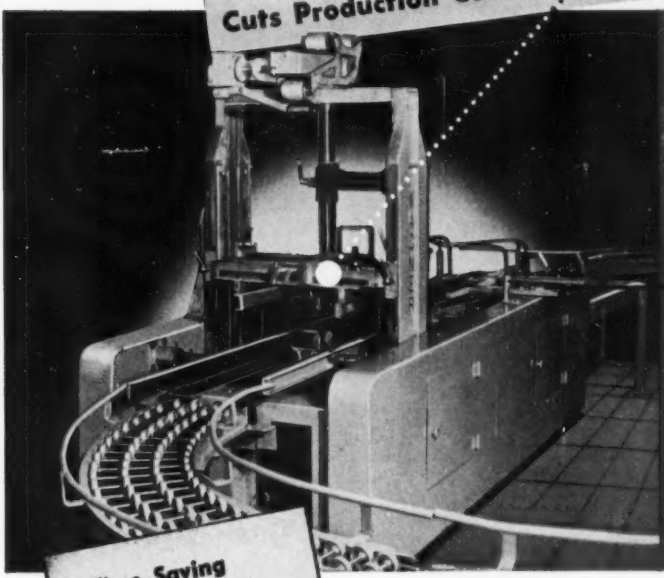
INCORPORATED — LOUISVILLE 10, KENTUCKY

SPECIALISTS IN ALUMINUM FOIL

SALES OFFICES:	714 Wrigley Building Chicago 11, Illinois	238 West Wisconsin Ave. Milwaukee 3, Wisconsin	500 Fifth Ave. New York 36, N. Y.	Hippodrome Building Cleveland 15, Ohio	260 Kearny Street San Francisco 8, California	813 North La Brea Los Angeles 38, California

THE ONLY CARTON CLOSING MACHINE OF ITS KIND IN THE WORLD!

Cuts Production Costs — **Permits Carton Re-Use**



waqner AUTOMATIC TAPING MACHINE

Time Saving Profit Making DESIGN FEATURES

- **Saves Labor.** Operates automatically without special supervision.
- **Saves Space.** Compact — requires minimum of floor space.
- **Saves Time.** Adjustable to variable speeds to fit your packing line.
- **Saves Accidents and Down Time.** Moving parts fully guarded, yet easy to reach for maintenance.

Now you can automatically tape cartons neater, faster and at far less cost. For the compact, efficient Wagner Automatic Taping Machine can be tuned to your production line to tape up to 50 cartons a minute.

Through Automatic Taping — you eliminate supervision, and slash carton-sealing labor costs. Your taping job is done simply and quickly . . . neatly. A neater package means greater carton acceptance, thus increasing carton return trips and drastically cutting single trip carton costs.

It's these extra savings that add up to sound plant economy. Investigate the new Wagner method of carton sealing. Write Wagner today!

WAGNER Automatic Taping Machine is used by leading breweries everywhere

Write for **FREE** Bulletin

WAGNER IRON WORKS, Dept. MP
1905 S. 1st Street, Milwaukee, Wisconsin

Please send me bulletin 167 describing the WAGNER AUTOMATIC TAPING MACHINE.

Name.....

Company.....

Address.....

City..... State.....

Yippeeeee

that's for Me!

Duplex cellophane bag, with plain inner liner and printed outer wrap, makes this a fast-selling item.

SELL SHOPPERS FASTER

with SYLVANIA CELLOPHANE

To flag down shoppers faster, wrap your candy in bright, gleaming Sylvania Cellophane.

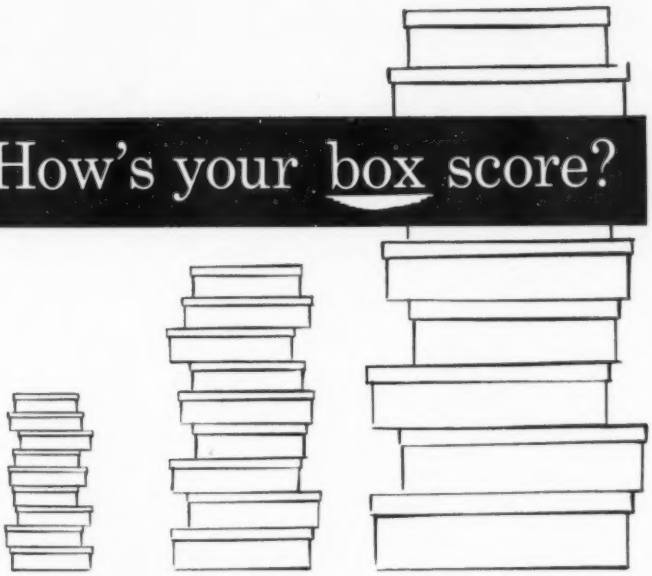
This tough moisture-proof wrap makes any mass-display item stand up and give a good account of itself. It commands attention, sharpens interest, quickens buying.

Available in a wide variety of colors, coatings and weights to meet your every wrapping need—completely, effectively, economically.
Sylvania Division, American Viscose Corporation,
1617 Pennsylvania Blvd., Philadelphia 3, Pa.

SYLVANIA DIVISION, AMERICAN VISCOSE CORPORATION

SYLVANIA CELLOPHANE

How's your box score?



1. *Good promotion potential?*
2. *Prompt identification?*
3. *Ample protection?*
4. *Ease of loading?*
5. *OK in shipment and storage?*
6. *Durable in use?*
7. *Long-range economy?*
8. *Uniform appearance?*
9. *Made by dependable supplier?*

2. *Does your box offer* prompt identification?

The Charles Antell name is identified effectively on *both* sides of the hinged lid. The label on the lid-top doubles as an envelope for a gift card. From lid to velour-covered platform, the package emphasizes the Charles Antell silver-and-maroon color combination.

To provide an appropriate showcase for its line of hair preparations, Charles Antell Inc. recently decided to assemble a special package for display and gift presentations on TV programs.

Obviously the box had to radiate quality, and to register the maker's name promptly. Both objectives were met by the box pictured here, designed and built by Miller for this special purpose.

Whether or not identification is a "must" in your packaging . . . and it usually is . . . you'll find that Miller boxes give you a better "box score" on all essential packaging points. Your Miller representative will be glad to make suggestions that will give you improved packages at long-run savings. Call him . . . or mail the coupon below.

designers and manufacturers of set-up paper boxes

Walter P. Miller Co., Inc.
452 York Avenue, Phila. 23, Pa.
MArket 7-2600

We'll be glad to talk packaging with your representative. Have him arrange for an appointment ahead of time.

Name .....
Firm Name .....
Address ..... Telephone .....
City ..... Zone .... State .....

The Fast Automatic Crandall Counter is IDEAL for Producers of Tablets, Pills or Capsules

Here's Why!

The Crandall . . .

1. handles practically all types of coated or uncoated tablets, pills and capsules
2. can be equipped for any count
3. handles bottles, cans or cartons
4. runs at speeds up to 60 bottles of 100-count per minute—faster where counts are lower
5. can be equipped for automatic or semi-automatic operation

The original Crandall Tablet Counting Machine is manufactured *only* by **US.**

. . . and here is an important added feature—

The Crandall can handle several different products simultaneously. By dividing the hopper, the Crandall can count several products at the same time. Thus, if you are making small volumes of a variety of products, you can set up the Crandall to suit your exact requirements with a minimum of effort.

Full details are yours for the asking. Write today.

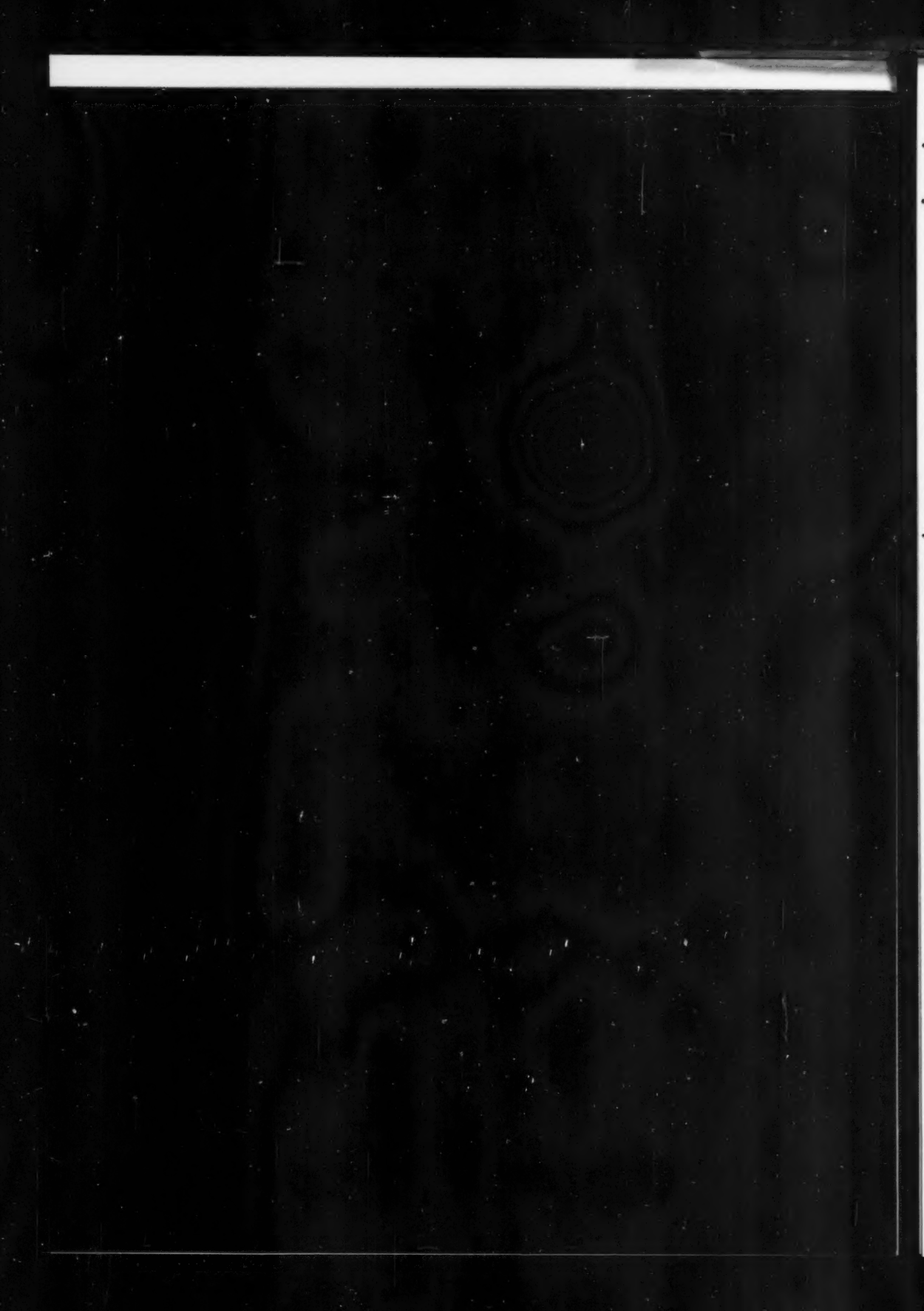
U. S. AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. • CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York ★ Chicago

Net and Gross Weighing Package Forming and Filling Carton Sealing, Lining, Wrapping, Box Making



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You can't stop women from pinching and poking merchandise . . . BUT *you can* stop soiling and losses and the markdowns that follow, when you package in VISQUEEN film.

VISQUEEN is practically impervious to shopper handling abuse, display light heat, stacking, pushing around. It doesn't get brittle or dry-out; doesn't crack, split or shatter. Stays flexible and tough.

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*T. M. The Visking Corporation

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a product of the **VISKING** corporation
World's largest producers of polyethylene sheeting and tubing
Preston Division, Terre Haute, Indiana
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A new packaging industry grew up in the past half century. Fifty years ago, when Rhinelander Paper Company was founded, Glassine and Greaseproof papers were in their infancy.

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Bernardin Bottle Cap Company
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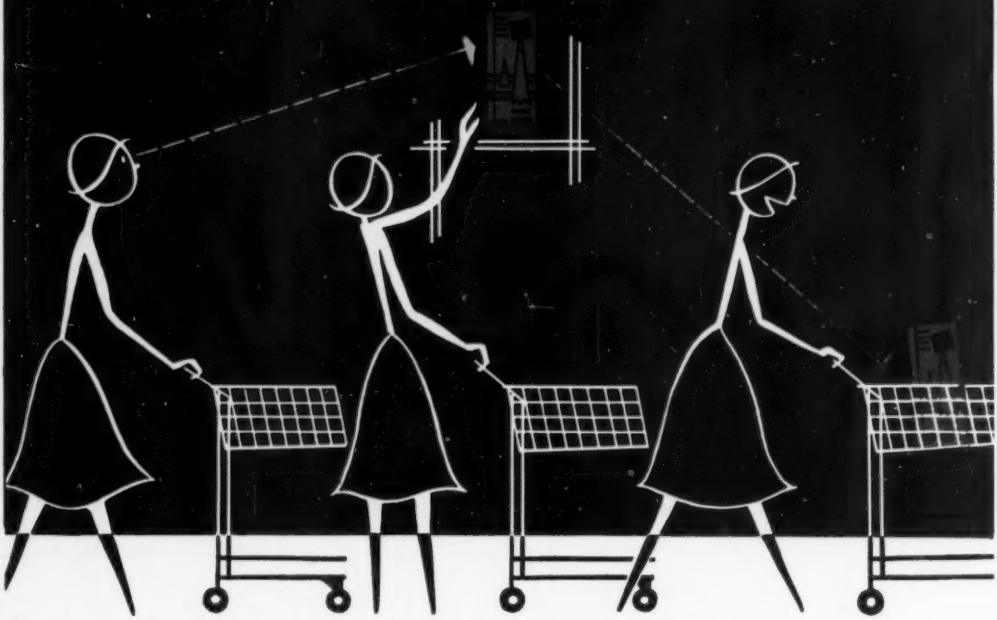

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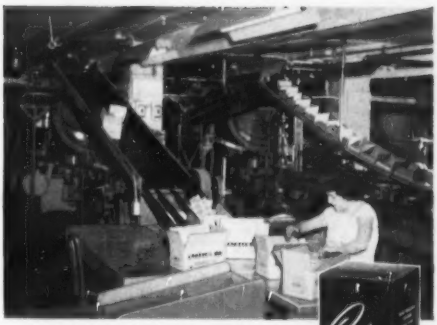
PNEUMATIC SCALE CORP., LTD., 82 Newport Avenue, Quincy 71, Mass. *Also: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*



Carter's various bottle shapes and sizes are automatically filled, capped and labeled on Pneumatic machines, shown above in operation at Cambridge, Mass. Cartoning and case packing operations are completed by hand.

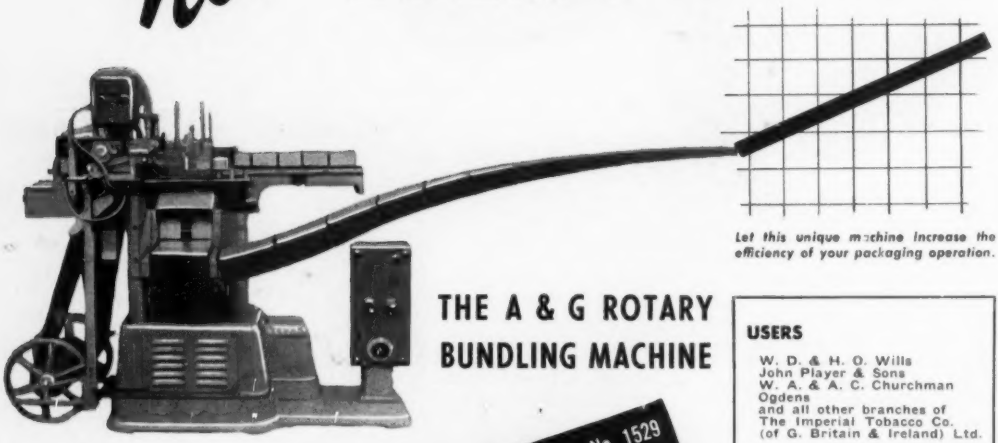
★PNEUMATIC *Packaging and Bottling Equipment*

VARIETY IS THE SPICE OF LIFE
EFFICIENCY THE KEY TO CUSTOM

Is your country catalogued here?

No?

Then you are not employing the most efficient and up to date bundling equipment. Let us put you on the map of efficiency by assisting you with your packaging problems



Let this unique machine increase the efficiency of your packaging operation.

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Positive Selling Every Hour (L) Every Day!

You really "accentuate the positive" when you put a Milprint lithographed display to work for you! It's a salesman that tells a selling story to every prospect . . . tells it with eye-catching color and design, with compelling precision printing, with forceful, saleswinning repetition.

Milprint lithographed displays offer "plus values" in building sales because they're designed by artists with years of practical merchandising background, produced from *start to finish*, even to making the lithograph plates, by experienced Milprint craftsmen. Milprint's facilities—most complete in the industry—mean superior displays, printed promotional material, and packaging that works hard to boost your sales, every hour, every day!

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General Offices, Milwaukee, Wisconsin
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Printed Cellophane, Pliofilm, Polyethylene, Acetate, Glassine, Foils, Folding Cartons, Bags, Lithographed Displays, Printed Promotional Material

This insert lithographed by Milprint, Inc.

Few things can lose a repeat sale faster than a tube that breaks and lets your product ooze out. Because customers blame it on the product, not the tube. Messy business. Costly business. And unnecessary business. We've been making better tubes for 28 years now. Let us show you what we mean.

Sun Tube Corporation
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Cincinnati 8, Ohio: Ralph H. Auch, 3449 Custer Road
New Orleans 19, Louisiana: R. P. Anderson Co., 925 N. Solomon Pl.
Houston 19, Texas: R. P. Anderson Co., 5643 Overlook Lane
Dallas 2, Texas: R. P. Anderson Co., 1122 Texas Bank Building
St. Paul 1, Minnesota: Alexander Seymour, 712 Pioneer Building
West Coast: Wm. J. Stoepker, 301 E. Colorado, Arcadia, California
Canada: Sun Tube Corp., 145 Spruce Street, Ottawa, Ontario
Mexico: Tubos de Estano, S. A. de C. V., 174 Oriente No. 267, Colonia Moctezuma, Mexico, D. F.

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EMPIRE BOX
CORPORATION

FINE FOLDING CARTONS SINCE 1903

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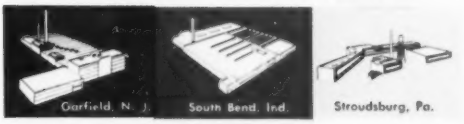

Do *you* consider . . cutting cost?

It will *pay* you to consider it! *Many firms make a profit on cutting!* How? By installing a modern Beck Automatic Roll Sheet Cutter. Result:

- TOP SPEED CUTTING
- NO INACCURACIES
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A Beck Sheet Cutter can do it for *you* . . . turn *your* cutting into profits. Cut anything that comes in rolls. Let us install a machine that is especially engineered to suit *your* cutting tasks.

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Pacemakers since 1864 in the ENGINEERED APPLICATION of SHEET CUTTERS and SLITTERS

JOHNSTON FOIL

... FOREMOST FOR PACKAGING BY *AMERICAN

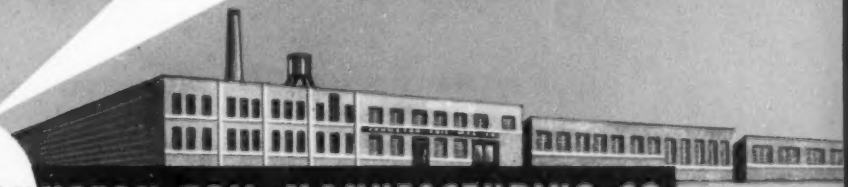
ALUMINUM . . . TIN . . . LEAD . . . COMPOSITION TIN AND LEAD

OUT FRONT
in the BAKING PAN PARADE

Modern methods in the Bakery Industry — pans made of JOHNSTON FOIL - go all the way from oven to the home. They save time, cut labor costs, increase sales — the prime function of modern foil packaging.

*PANS BY
THE AMERICAN PAN DIVISION
CINCINNATI, OHIO

What are **YOUR** *needs?*



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output UP...

...costs DOWN

CART-N-SEEL 233H GLUE

- *SPEEDS UP PRODUCTION*
- *GIVES GREATER COVERAGE*
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THE IDEAL ADHESIVE FOR—

- *TOP AND BOTTOM SEALING*
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HALLMARK® QUALITY PRODUCTS

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285 MADISON AVENUE NEW YORK 17, N. Y.

ESTABLISHED 1866

Branch offices in 16 cities in U.S. and Canada.

FIRST IN DEVELOPMENT

The vision to conceive and the flexibility to adopt tomorrow's ideas today.

SEFTON FIBRE CAN CO.

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...Try a TEAM of box-sealers!

What's an easy way to seal long telescope boxes? Victor Manufacturing & Gasket Co., Chicago, wanted the answer, and they got it from 3M engineers: tandem-mounted box sealers and "Scotch" Brand Cellophane Tape No. 610. Now Victor seals long boxes twice as fast as before, and the special hi-tack tape holds tight to the glossy package stock —in all climatic conditions.

Why not let a 3M engineer work with you on your packaging problem? Let him show you new tapes and new methods for banding, sealing, coding and reinforcing. And let him show you how the *right* machine and the *right* "Scotch" Brand Pressure-Sensitive Tape *for that machine* can do your job better in less time, at less cost. Write 3M Company, Dept. MP-63, St. Paul 6, Minn., on your company letterhead today. No charge or obligation, of course.

ON STANDARD BOXES, operator uses single box-sealer that cuts and applies short strip of tape as box is pushed against roller. Simple and fast, too!

SCOTCH BRAND Pressure-Sensitive Tapes

3M

The term "Scotch" and the plaid design are registered trademarks for the more than 200 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.,— also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

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★ *A Quality Product of* **FISHER'S FOILS** *of* **LONDON, ENGLAND.**

Throughout all stages of manufacture, every roll of foil made by Fisher's Foils of England is *automatically controlled* for gauge consistency by the latest beam gauge. Send today for wide range of samples or ask our representative to call.
fisher's
foils

Label's on

in the blink of an eye

(1/5 of a second, that is)

with adhesives using

Monsanto PLASTICIZERS

Adhesives using Monsanto Plasticizers are helping packagers label five bottles every second. The labels stick with no smear. The seal is firm, permanent and moisture-resistant. Result: The packager saves time, gets a better-looking package that remains good-looking throughout the time it is on the shelf—and the more attractive appearance shortens its stay there.

Other Monsanto plasticizers are being employed in adhesives used to bond plastic, paper, wood, metal and foil.

Want more information about Monsanto plasticizers and their use in adhesives? Write for new Technical Bulletin O-99. MONSANTO CHEMICAL COMPANY, *Organic Chemicals Division, 800 North Twelfth Blvd., St. Louis 1, Missouri.*

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CHEMICALS – PLASTICS

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WHICH SERVES MANKIND

attention, advertisers!
Coming in NOVEMBER
...will have full circulation of Modern Packaging magazine!
...will include 100-page Buyers' Directory
It's "the most powerful single selling force in the packaging field".

1954 Modern Packaging Encyclopedia

Open NOW for advertising space reservations

Get full details by writing today to Advertising Department, Modern Packaging Encyclopedia 575 Madison Avenue, New York 22, N. Y.

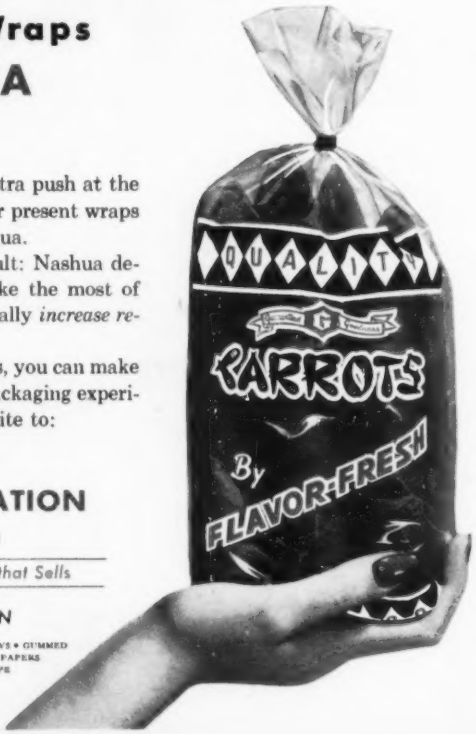
Garden Fresh

In Fact . . . In Appearance with Sales Wraps by NASHUA

To give your product an extra push at the impulse sales level, put samples of your present wraps in an envelope and send them to Nashua.

That is what this firm did. The result: Nashua designed and printed packages that make the most of impulse buying . . . packages that actually *increase retail sales.*

Whatever you package for retail sales, you can make sales grow by putting Nashua's vast packaging experience to work for you. Do it today. Write to:



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VOLUME 26
NUMBER 10
JULY 1953

Modern packaging

PHOTO, U. S. PRINTING & LITHOGRAPH CO.

QUALITY process printing is highly dependent on the skill, experience and judgment of the plate artist, shown here making color corrections on a film positive for Minute Rice cartons in preparation for lithographic engraving plates.

The trend to fine-screen printing

Growing desire for color realism on packages has become the challenge of a century to the graphic arts industry

The No. 1 problem in packaging printing today is to make the full-color illustrations on packages look like the realistic reproductions consumers are accustomed to seeing in the slick magazines. Manufacturers spending millions of dollars on color advertising to pre-sell their products are demanding the same kind of printing on their packages to give instant recognition at the point of sale.

A package for a ready-mix cake flour or frozen chicken would be lost in today's markets without the mouth-watering pictures of what can be made with the contents. And a picture without the eye and appetite appeal of faithful full-color reproduction is worse than no picture at all.

How valuable are pictures? One packager of rice recently changed from a solid-line printed window carton to a series of cartons with full-color photographic illustrations of the dishes that can be made with the rice. With the new cartons he reports that his business on this item has increased 100% in a few months.

This rush for color realism, spurred both by the booming trend to self-service merchandising and by finer graphic arts in advertising, has been the greatest challenge in a century to the graphic arts industry.

Much progress has been made. Before 1940, mass-produced, fine-screen, full-color-process reproductions of color photographs on boxboard were unheard of. Now they are generally used for all printing methods.

Today rotogravure cylinders up to 300 screen are turning out labels at speeds of thousands per minute.

With modern in-line equipment it is possible to combine fine-screen rotogravure with a separate letterpress unit on the same job, thereby helping to eliminate disadvantages of roto-

LETTERPRESS

100-LINE SCREEN is producing excellent multicolor effects by letterpress on three types of paperboard stock (left to right): Chef Boy-Ar-Dee package, machine clay coated; Sunshine Potato Chips, white patent coated; Canada Dry Quinac, super white-coated board using virgin stock. Better control of board thicknesses and improved finishes are permitting letterpress printers to achieve faithful reproductions without going to finest screens. PHOTOS, NEW HAVEN PULP & BOARD CO.

gravure for frequent-change runs.

Just around the corner is a possibility of laminating full-color, process-printed quality papers to the least expensive kind of boxboard, thereby achieving the finest quality multicolor printing on folding cartons at substantially lower cost.

The unusual technical progress that is responsible for continually better package printing is not confined to any one process or method. It represents the combined efforts of the suppliers of packaging materials, printing plates, printing inks and printing equipment, added to the constantly improving skills of letterpress, lithographic and gravure printers.

The realism of reproduction of a color photograph or any piece of multicolor artwork depends, of course, on how closely the printing process can approximate the continuous tones of the original. In all commonly used methods of process printing these continuous tones are broken up into a series of dots (called screen) to transfer the ink to the paper, either from a raised surface (letterpress), a plane (lithography) or from recessed cells (intaglio or gravure). In theory, the greater number of dots that can be printed per inch, the closer the print approaches the appearance of the original.

In practice, however, screen dimension is not the only criterion to be followed in simulating the continuous tone of the original art. Many compromises must necessarily be made in commercial printing, due to the characteristics of the subject reproduced, the properties of the material that is to be printed, the chemical and physical characteristics of inks, mechanical limitations of various printing processes and printing presses, and the budget permitted for a job.

Each type of printing has its place in today's packaging and each—probably because of the advantages or limitations of the others—has made interesting progress in its own sphere.

Following is a brief discussion of these advances with respect to the three most commonly used printing methods for multicolor process work. Flexographic (aniline) and silk-screen processes—important as they are—will not be covered here, since these are not ordinarily used for full-color-process work, and that is the sole subject of this article.[1]

Letterpress

Letterpress, accounting for about 70% of all package printing today, continues as the work horse of the industry. Its versatility enables it to handle practically any kind of a job and its adaptability to changes of copy is an outstanding advantage. When high-grade papers can be used for labels or wraps, it reproduces with the same remarkable high fidelity as can be found in the 120- and 133-line engravings used for letterpress printing on slick magazines.

Fine-screen printing by letterpress is dependent to a large degree on the quality of the printing surface and the uniform thickness of the sheet. Striking progress in process printing on boxboard by letterpress has been made in recent years by improved board finishes and the greatly improved uniformity of board thicknesses. Inherent to the making of paperboard is a variation in thickness of the sheet from side to side and end to end. Letterpress must be made ready for the thinnest area of the sheet. When the heavier areas come through the press, the dots or fine type are driven into the board and the shoulders sometimes print. And if the coating is not of top quality there is a tendency for the paper to absorb too much ink, so that too fine a screen does not produce the desired result. To obtain board uniformity is one of the reasons why an increasing number of commercial printers during recent years have acquired their own

[1] For a very complete discussion of the advantage of flexographic printing (formerly called aniline) see "Aniline Printing—I," MODERN PACKAGING, June, 1950, p. 145; "Aniline Printing—II," MODERN PACKAGING, July, 1950, p. 159.

board mills, thus enabling closer control over board production.

With good quality machine-coated board, letterpress printers are producing very realistic process-color printing using 110-line screen on high-speed multicolor rotary presses that are turning out up to a million cartons a day in five colors.

Preparation of the artwork must be done with great care to control tonal qualities. Realism in reproduction, even without the finer screens used by other processes, is aided immensely in letterpress printing by the increasing number of engravers experienced in etching process engravings for boxboard. Electronic etching is also helping to assure uniformity of depth and to eliminate the excess undercolor in engravings made for wet printing.

For subjects with many interrupted color areas, such as the grain in a cake or the lacy design in a doily, where the coarseness of the dots does not show so plainly, letterpress printers recommend screen as low as 85 line to obtain greater tonal depth. Where there are large areas of light tones, however, such as the reproduction of a whipped-cream topping, the dots may be quite noticeable with anything under 100-line screen. When this happens, the realistic effect may be lost unless a finer screen is used.

Quality letterpress printers, however, are getting very excellent effects today with 100-line screen even on patent-coated stock and bleached manila, if the jobs are properly handled, as shown by the illustrations on page 100.

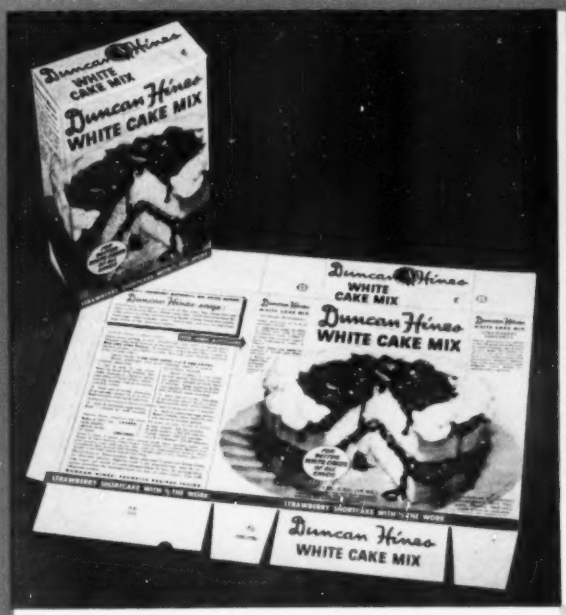
One of the most important aids to letterpress printing for packaging has been the development of steam-set inks—also known as moisture-set or vapor-set. For today's high-speed printing, letterpress inks must be formulated so that they will not dry on the press roller, but will set immediately upon coming off the press. Steam-set inks are formulated so that they will set instantaneously.

Gloss inks are now being used to a larger extent in letterpress printing to impart brilliance and scuff resistance to the printed piece. In many cases they are replacing varnish overprint.

Offset lithography

For years offset lithography has been regarded as one of the most efficient methods for obtaining full-color reproductions on labels and wrappers. Shortly before World War II it became apparent that if lithography was to keep pace with the demands of package users for color reproductions of exacting faithfulness, methods would have to be devised to use dot formations fine enough so that the human eye would not be able to

OFFSET LITHOGRAPHY



MOUTH-WATERING strawberry shortcake on Duncan Hines carton is reproduced with remarkable fidelity by 175-line screen lithographed in four colors on high-quality, machine clay-coated stock. PHOTO, LORD BALTIMORE PRESS.

133-LINE SCREEN is used on machine clay-coated stock lithographed in six colors for Occident cake-mix cartons. Minute Tapioca cartons are lithographed in four colors on brush clay-coated stock with 133 screen. PHOTOS, U.S. PRINTING & LITHO.

SALES DOUBLED in a few months after Albert Ehlers replaced solid-line-printed window cartons with these four cartons depicting tempting dishes made with product, reproduced by multicolor lithography, 133 screen on white patent-coated stock. PHOTO, ROSSOTTI LITHOGRAPH CORP.

detect the pattern and to print such fine screen on boxboard in a way that would be practical. Furthermore, the characteristic softness and lack of brilliance in the solid areas of lithography was a decided detriment to progress in package printing.

One leading lithographer whose work has since gained wide recognition began experiments despite wartime difficulties. In this case, it is reported that the solution was the development of new types of press plates, using metals so finely textured they would permit the use of screens and rulings of 200 or more lines per inch. The plates also had to withstand the abrasive action of the various grades of paperboards and finishes and the use of brilliant new ink pigments which would not chemically attack the metal of the plate to cause "pitting" of the image. According to this firm, the basis of the development was the formulation of the metal used for the plates which permits engraving techniques formerly considered impractical for folding boxes on ordinary clay-coated board.

The first commercial package printed by this method was the Q-T Pie Crust carton, on which was reproduced a striking Kodachrome photo of a pie printed in five colors in 175-line screen directly on ordinary clay-coated board.[2]

Today, 175-line offset lithography is being used to print food cartons, holiday liquor cartons and cartons for toiletries, cosmetics and confections where quality color work is an essential to selling.

This particular development caught the public eye and had the effect of stimulating demand from packagers for all kinds of fine-quality lithographic work on boxboard. Excellent four- and five-color work is being produced by all leading lithographers, although they do not all agree that it is necessary to go to 175-screen to achieve it. In fact most of them are exhibiting work done with 133-line screen in which it is difficult for the eye to detect the dot formations. About 20% of all package printing, it is estimated, is done by offset lithography today.

A great deal of the quality to be achieved in lithography is dependent on the care used in preparing the copy. Original color photographs should be made so that they require little or no retouching. Much of the realism is lost if photos have to be retouched before the engraving is made. Some lithographers use a different kind of light source for color extraction with color photographs than they do for colored artwork.

Much also depends on skilled technicians, their knowledge and judgment in etching plates. Many scientific tools help to obtain more accurate quality control in the lithographer's plant.

Each firm has its own methods and techniques for attaining quality and these procedures are jealously guarded. The business is highly competitive and there are few developments that are patentable. Therefore each firm is reluctant to tip its hand on its know-how.

The purchaser of packaging, however, can usually get a pretty good idea of the quality he will get by studying previous jobs a firm has done and its reputation in the trade. As in all printing, the purchaser gets about what he pays for. No printer can do the best job if he has to shave the price too close. Opportunities for economies should never be overlooked, but too much economy on a package job today may mean a package that doesn't move off the dealer's shelf.

While lithography has always been exceptional in its ability to produce vignettes, the weakness of solid areas has sometimes been a problem without the use of additional colors. A new short-cut means of overcoming this is now suggested by one firm through the use of a series of color design patterns which are being offered in a variety of color combinations—fine lines, criss crosses, dots and diagonals running literally into thousands of possibilities. The patterns are designed to save artist time and may be selected by placing them under a sheet of transparent acetate upon which the halftone illustration for the package has been mounted. All of the designs can be printed by one or more of the four colors used in the halftone offset engraving, thus helping to reduce the number of colors needed to achieve certain effects. They also permit the use of very fine screen for the vignette with coarser screen or line for the background. Certain patterns are being exclusively assigned to particular brands. In this way they are useful in strengthening brand recognition. Since all the patterns may be reproduced within the limits of four-color process, they permit the package to be reproduced faithfully in advertising by the four-color letterpress used in magazine work. This is most desirable today when the pre-selling of package identity in advertising has become so necessary.

[2] See "Brilliant Reproductions, MODERN PACKAGING, Dec., 1943, p. 93.

PATTERNED BACKGROUNDS in endless variations are offered today for combination with halftone offset lithographic illustrations. They provide new effects, save artist's time. All are designed for use with four-color process, so additional colors are not required for background.

PHOTO—PACKAGE RESEARCH LITHOGRAPH CORP.

Gravure

Gravure has rapidly been gaining acceptance in package printing, although only 10% of all packaging jobs are reported to be done by this method.

Gravure involves two procedures: rotogravure, using roll-fed rotary presses printing from cylinders, and sheet-fed gravure, using sheet-fed presses printing from a flat "strap-on" printing plate. Rotogravure is particularly suited to long, continuous runs on big-volume packages.

An advantage common to both types of gravure is the ability to print very fine screen on rougher surfaces, reportedly, than is possible with either

letterpress or offset lithography. With comparative flexibility, sheet-fed gravure with normal screen of 150 lines offers very fine reproduction of color photos or full-colored art on almost any stock, including clay-coated, white-patent-coated and bleached-manila boards.

Notable current examples of fine-screen rotogravure printing on boxboard are new cartons for Borden's ice creams, carrying full-color illustrations of product and Elsie with very good, clear lettering on blended bleached stock, produced at high speed, with in-line equipment upon which thousands of dollars of development work have been spent to obtain the desired results.

Rotogravure has the added advantages of extremely high speeds and the elimination of make-ready offers outstanding economies. Also, because it prints "dry," rotogravure offers the opportunity of placing in-line with the printing units, rotary embossers, perforators, coating and lacquer-applicator units as well as rotary or reciprocal cutting and creasing equipment so that an entire job may be done in one fast operation. Chrome plating of cylinders and plates has also given exceedingly long life to gravure printing surfaces.

Rotogravure units came into packaging use for high-speed printing of labels and wraps. One of the first examples of in-line, high-speed rotogravure equipment for carton printing was that installed for Jell-O in 1937.[2]

The ability of gravure to print on varied surfaces led commercial printers to install sheet-fed and web-fed units during the '30s to print on cellophane, waxed paper, aluminum foil and other package specialties.

No appreciable gains were made, however, until after World War II, due to the inability to obtain cylinders and press equipment. Today it is reported that roto presses are being installed as fast as machinery producers can make them. Some are turning out soap and cigarette cartons in four colors at rates of 40,000 cartons per hour, using up boxboard at the rate of a ton every 20 minutes.

Five years ago the American Chicle Co. had no gravure cartons. Today it produces all cartons, gum wraps and labels by gravure. American Tobacco Co. is producing more than half its cartons by rotogravure as well as some of its cigarette wraps. Beech-Nut Packing Co. has gone entirely to rotogravure and Ohio Match Co. prints both sides, folds and applies scratching surface to 5,800 match folders *per minute*.

Other prominent users of rotogravure are General Foods, Procter & Gamble, Colgate, Lever Bros., American Thread, J. & P. Coats, The Borden Co. and Lipton Tea.

Not only does gravure differ from letterpress and lithography in the manner by which the ink is transferred to the printing surface, but unlike either of the other two, it necessarily must have a pattern of dots over every area that prints. Ink, in intaglio printing, is carried in the minute cells or cups etched in the cylinder or plate and is transferred to the printing surface by pressure. Each cell represents a dot on the print. Unless the dots are extremely minute

ROTOGRAVURE

EXQUISITE DETAIL is achieved in Lux soap wrappers with 300-line rotogravure. Ten million were produced by this process. PHOTO, GRAVURE CYLINDER CORP. and WILLIAM W. FITZHUGH, INC.

NOTABLE EXAMPLES of rotogravure on boxboard are Borden's ice-cream cartons printed with 150-line screen in full color on blended bleached stock. PHOTO, BLOOMER BROS. CO.

[2] "Jell-O," (*Packaging's Hall of Fame*), MODERN PACKAGING, Dec., 1950, p. 88, also March, 1940, p. 392.

and close together, it would be impossible with gravure to obtain clear, clean, solid background colors or sharp definition of line on lettering matter, particularly when the lettering is small.

For this reason the producers of gravure have been working constantly toward finer and finer screens for an entirely different purpose from letterpress and lithographic printers. While 150- and 200-line gravure is adequate to reproduce the continuous tone of color photographs with excellent fidelity, they have not been fine enough to print the extremely fine line lettering for packaging work, particularly the informative copy on cigarette wrappers or the detail on certain soap wrappers.

That is why it is news when gravure engravers announce that they are now making cylinders and plates with screens up to 300 line with sufficiently deep etch for practical work on high-speed presses. An outstanding example is the Lux soap label, shown in an accompanying illustration. The dots are visible only with a very strong magnifying glass, thereby giving the effect of clear solid color and unbroken lines even on the smallest detail of the delicate design.

For runs with frequent changes, such as soap or cereal cartons requiring, periodically, new selling messages or premium offers, one of the difficulties of rotogravure is the cost and length of time it takes to make cylinders. To overcome this problem it has been suggested that cylinders be engraved for those parts of a design which are standard. Letterpress units might then be added to in-line equipment for the printing only of those sales messages which need occasional changing. Leading designers of in-line rotogravure presses say this is quite feasible and has already been done in a few instances.

The possibility of laminating multicolor process preprinted paper to paperboard is presently intriguing many packagers. This would eliminate many present difficulties. The finest-quality papers—on which there is no serious printing problem by any process—could be combined with the cheapest kind of paperboard at considerably less cost, it is believed, than that of the high-quality, clay-coated boards of controlled uniformity that are now preferable for fine-screen printing by all three printing methods. One leading equipment manufacturer is already reported to be experimenting with this development.

Today's purchaser of process printing for packaging has opportunities for achieving results unheard of before the '40s. Every job, however, has its definite requirements which must be studied carefully to select the best printing method. Such questions must be asked as: What kind of surface is to be printed? What are the characteristics of the subject matter? How many colors are involved? What is the time element? Will the run be long or short without change? Will the selling price of the product absorb the cost of top-quality work? It will generally be found that one printing method is a natural for one package, while another is most suitable to the next. Sometimes, to obtain maximum volume, all three of the major processes can be combined in the production of the same package. In fact, this is occasionally done when a user cannot get sufficient production in any one supplier's plant, when he does not want to depend on any one source, or may wish to compare the quality of more than one process. And in many cases only an expert can distinguish differences in appearance.

Acknowledgements

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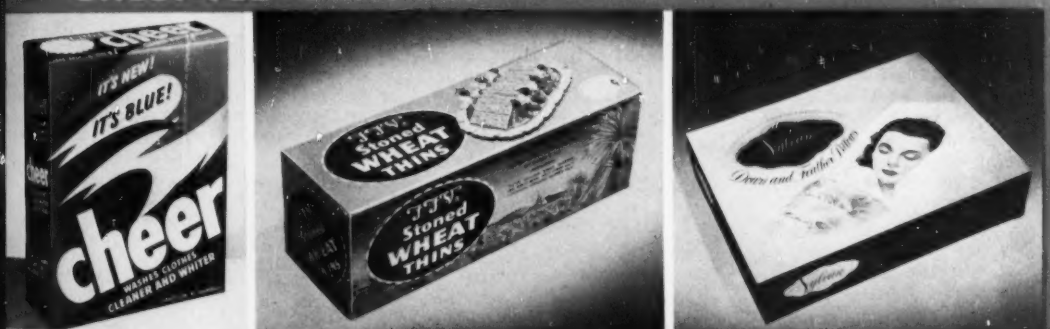
SHEET-FED GRAVURE



NORMAL SCREEN of 150 lines offers very fine reproductions by sheet-fed gravure of color photographs or artwork reportedly on rougher surfaces than is possible with other color-process methods of printing. PHOTO, ROBERT GAIR CO.

CUT-OUT SECTION shows double-wall construction forming air space between walls. Jars are injection molded with bottom disk fused in and are made with standard GCMI finishes.

Double-wall poly jars

A fifth the weight of glass, unbreakable and pleasing to touch. it gives Aziza cosmetics new sales and eye appeal

For years the cosmetic industry has been looking for suitable jars made of plastic materials to package beauty preparations. There have been a number of notable developments in this direction, but none which has completely met all requirements.

A double-wall jar molded of polyethylene has recently been adopted by Aziza Eye Cosmetics, Inc., New York, for Aziza Eye Cream and Aziza Mascara Remover Pads. It appears to have unlimited possibilities and shows promise of becoming as important in its respective field as the polyethylene bottle. Primary considerations in the selection of the container were its light weight and the fact that the jar is unbreakable, plus its attractive appearance and "touch appeal."

By actual scale test, the new jars, which Aziza is using in 1-oz. and 2-oz. sizes, are one-fifth the weight of conventional containers, a characteristic which helps offset their higher original cost. Not only are shipping costs reduced, but because the jars are unbreakable they require considerably less protective packaging for shipment.

An unusual feature is the double-wall construction, which provides a jar identical in shape to conventional glass jars without excessive use of polyethylene material and provides an air space between the outer and inner wall. The double wall and air space are reported to prevent permeation of volatile aromatics–sometimes a disadvantage of single-wall polyethylene containers–and to give insulation to the product contained. The latter property is said to be an asset in very warm weather when creams and other types of viscous products tend to become soft. Conversely, the insulation is said to help keep contents from becoming too hard during cold months.

The jars are injection molded with the open end of the wall section at the bottom; later the bottom disk is fused on. The exterior surface is especially treated to give a high-gloss finish and to prevent scratching or marring of printed data. The surface permits hot stamping of trade name, design, direction copy and mandatory information. The inner wall is rounded at the base similarly to the inside of a glass jar so that contents are easy to remove.

Another advantage is the tight closure that can be obtained on the jar due to the well-engineered tolerance of the threads and the inherent flexibility of the polyethylene, which permits cap to grip threads tightly.

The jars can be produced in any color. Aziza has selected a pleasing, cool shade of aquamarine blue with black lettering, matching the company's polyethylene squeeze tubes for eye drops.* Stock closures may be used, as the jars are made with standard GCMI finishes. The Aziza closures of black phenolic are given distinctive design treatment by printing the company's trade symbol in blue on top.

Aziza put the new jars on the market about a year ago on a test basis and today is using them for its entire production on two products. The company feels that the new polyethylene packages have had a definite influence in increasing sales because of their pleasing appearance, light weight and unbreakable feature.

The same type of jar is also being used successfully by Dorothy Gray for Cellogen Hormone Cream.

CREDIT: *Jars molded by Imco Container Corp., 75 and Cleveland Sts., Kansas City 30, Mo.*

* See "Little Squirt," MODERN PACKAGING, July, 1952, p. 107.

SHADES OF

Dorothy Gray scores the cosmetic hit of the year with packages that are striking replicas of the famed blue jasperware

Most talked of cosmetic packaging in many seasons is Dorothy Gray's new Wedgwood fragrance line. It's beautiful; it makes news; it has a tie-in with high-fashion color and it has universal feminine appeal that should last for years to come. It makes use of a significant new technique in the decoration of glass containers.

It represents the kind of news-making artistry in packaging that every cosmetic house constantly looks for and only occasionally achieves. Since its introduction late in March, the company has been swamped with orders.

Actually the Dorothy Gray packages helped to establish Wedgwood blue as a 1953 high-fashion color. Paris called for blues. Dorothy Gray—ready to market a new line of flowers-and-spice fragrance—called it "Wedgwood," packaged it in the famed blue of Wedgwood jasperware and thereby helped to promote this particular shade of blue which has been taken up by the fashion magazines and applied to all manner of ready-to-wear and accessories.

The idea of developing glass containers that would look like the traditional Wedgwood blue jasperware originated with Albert Plaut, Dorothy Gray's ad manager, who happens to be an avid collector of antique Wedgwood, some months ago when fashion's color arbiters decreed that "Wedgwood blue" would be high fashion for 1953.

DULL-FINISH texture of original Wedgwood is achieved by spraying blue specially formulated plastic resin coating on clear glass bottle. Figures are applied in later operation by silk screen. Same bottle mold is used for lotion in clear glass with white figures showing against blue liquid. Embossing gives bas-relief to figures on cartons and box coverings.

For some time Dorothy Gray had wanted a fragrance line to complement her treatment line so that shoppers buying Dorothy Gray products would not need to turn to other lines for perfumery. Last year's fall previews of this year's spring colors sparked the idea of the tie-in and it was applied to a new flowers-and-spice fragrance.

Permission was obtained directly from Joshiah Wedgwood & Sons, Inc., of England for use of the famous name. Work began last fall on the design of glass bottles for perfume and cologne that would be practical yet preserve the traditional feeling of the jasperware blue vases with the "Dancing Hours" bas-relief.

Special coating

A new type of plastic-resin coating was developed, after weeks of research, to give a realistic effect of the dull-finish ceramic texture of the original Wedgwood ware, yet a surface that would be impervious to handling and product ingredients. The bottles are heat processed once after the blue coloring is sprayed on and again after application of the dancing figures, which are silk screened on so effectively that they create an illusion of the familiar Wedgwood bas-relief. A white, acorn-shaped urea cap is used on the cologne bottles, but the cameo on the top of the bottle for perfume ($10) is genuine Wedgwood ware, set in a white urea closure in such a manner that it may be removed later by the purchaser for mounting in costume jewelry.

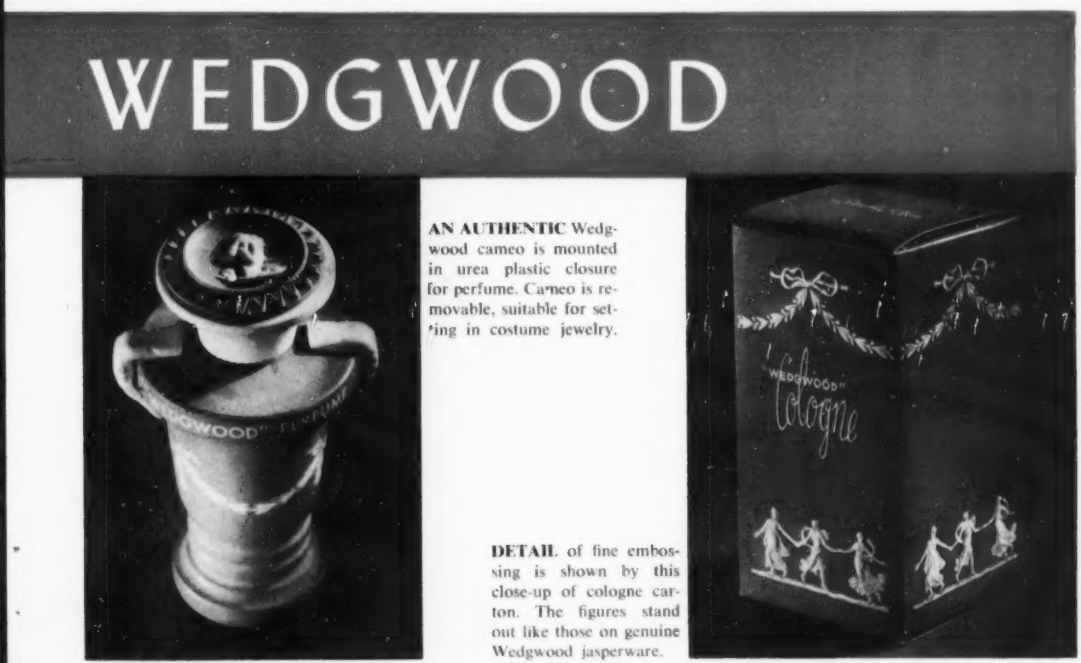
The same bottle molds in clear glass without the sprayed-on blue are used as containers for Dorothy Gray's new "Wedgwood" hand lotion, but the same silk-screened dancing figures are fired on the glass in white, permitting the blue color of the lotion to show through.

On an oval dusting-powder box, a folding carton for cologne and a square set-up box used for the perfume, the Wedgwood motif becomes most realistic with the dancing figures and lettering, both in white, actually embossed against the blue background coloring.

The design theme is also applied to the lithography on an aluminum container for stick cologne, which has a white polyethylene closure.

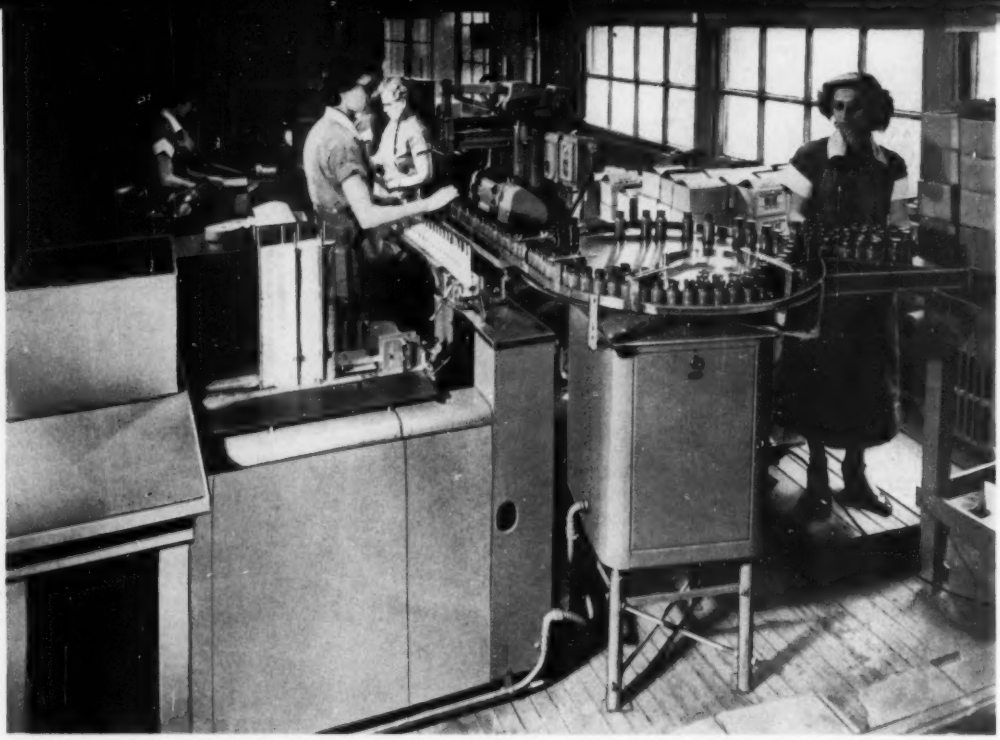
The whole program is a striking example of success through making the package itself a thing of beauty. And it has been produced, according to the company, well within a practical budget for a quality cosmetic line to retail in the medium-price bracket. The company already feels sure that the attractive packaging will maintain leadership for the line, saleswise, for several years.

CREDITS: *Bottles, T. C. Wheaton Co., Wheaton Ave., Millville, N.J. Bottle decoration, Ceragraphic, Inc., 250 South St., Newark, N.J. Urea closures, Mack Molding Co., 160 Main St., Wayne, N.J. Folding cartons and box wraps, C. H. Forsman Co., 318 W. 39 St., New York. Set-up boxes, Cross Paper Products Co., 4377 Bronx Blvd., Bronx, N.Y. Stick-cologne container, Bridgeport Metal Goods Mfg. Co., 1200 Cherry St., Bridgeport, Conn. Polyethylene closure, Lumelite Corp., Pauling, N.Y.*



AN AUTHENTIC Wedgwood cameo is mounted in urea plastic closure for perfume. Cameo is removable, suitable for setting in costume jewelry.

DETAIL of fine embossing is shown by this close-up of cologne carton. The figures stand out like those on genuine Wedgwood jasperware.



FAST, COMPACT LINE hits speed of 48 cartons a minute with five girls. Operator at right loads bottles, previously filled and capped, into unscrambler; conveyor takes them to labeler operator in center. Meanwhile, carton set-up machine in left foreground is setting up cartons, which also pass in front of labeler operator at same pace as bottles; in almost a single motion she applies label and drops bottle in open carton. Three other operators in background close cartons, place them in dozen packers, then in shipping cases.

Labeling-cartoning teamwork

With a box set-up machine and conveyor, Wyeth finds one operator can both label bottles and place them in cartons

In most pharmaceutical houses, continuous-line operations usually require an operator to set up cartons, another to label bottles and still another to carton bottles at the end of the line —each a distinctly separate operation.

It's different now at the Wyeth, Inc., laboratory in Philadelphia. Here, in a compact area, cartons are set up automatically by a new type of machine and fed by conveyor to a bottle-labeling station. Meanwhile, another conveyor feeds bottles to the same station. With the type of semi-automatic thermoplastic labeler used, the operator can label a bottle and place it in a carton in only a split second.

By simply linking the carton set-up machine with the labeler and combining jobs on the line, Wyeth has cut 25% off the cost of labeling, cartoning and casing Bicillin. The product, a new stable penicillin compound in liquid (oral) suspension, is bottled in the firm's West Chester, Pa., laboratory and sent to Philadelphia for labeling, cartoning and distribution.

The best way of seeing how Wyeth has achieved unusual efficiency in a compact operation is to look at the entire procedure for handling the product. Two-fluid-ounce round amber bottles, the only size now being packaged, arrive at the plant in the same compartmented, one-dozen-size, corrugated-board packers which conveyed them from the bottle-maker's plant and are repacked once more in the same carton.

The bottles, turned upside down in the packers, are dumped on a circular-type unscrambler and inspected by one operator. She is also responsible for labeling the packers—with a table-model label gummer—and delivering empty packers to the end of the line where they are loaded with the cartoned bottles. From the unscram-

bler the bottles flow on to a short conveyor which leads to the bottle labeler. Running parallel to this conveyor, but slightly below it, is another conveyor which carries the cartons which have been automatically set up. Both lines pass in front of the operator, who takes a bottle from the top conveyor, places it on the bottle support of the labeler and then places the completed, labeled bottle in a carton on the lower conveyor.

Bottles and cartons are synchronized by driving the carton machine off the labeler's shaft. Every time a bottle is labeled, a new carton is set up.

Ordinarily an operator would simply label the bottle and place it back on the line for someone else to carton. With the synchronized flow of bottles and cartons, however, both operations can be performed by one operator. At the next point, a specially designed cartoning table, two girls on one side pick the cartons off the line, tuck top flaps and place 12 cartons in each packer. Packers are then pushed under the conveyor line to the last station, handled by one girl who fills the 96-bottle shipping cases, labels and seals them with glue and tape for a thoroughly tamperproof and noncritical closure. In line with a carefully worked out distribution of duties, this girl can also fill the magazine of the carton set-up machine.

The line is capable of packing 15,000 bottles a day, according to production supervisors. A new team of girls handles about 40 a minute and, as they become skilled, can strike and maintain a rhythmic work pattern, climbing to a speed of about 48 a minute. Before coordinating the labeler with the carton set-up unit, the company employed eight girls to do the same work.

Wyeth's time-study department has carefully analyzed each element of work to determine the correct line value, using the best method. These elements of work have been distributed among the operators so that the line is almost in perfect balance, or the idle time on the part of any one operator has been reduced to a minimum.

Wyeth's compact cartoning line fits into a corner of the plant which measures only 12½ by 16 feet. This equipment will prove a boon to manufacturers who are pressed for space and are pressed to reduce packaging costs at the same time.

The drug house also has 13 other finishing lines, but it is not likely that the machine arrangement will be used for anything but the smaller-size bottles. The carton set-up machine has a size range up to 2 by 2 by 8 in. and within that range change-overs are easy and nothing on the line requires more than an hour. Naturally, if everything in the plant were packaged similarly, more of the machines would be pressed into service. However, because of the many styles and sizes of packages that are produced, the use of this unit will be confined to the smaller packages. Other lines are used to produce a variety of packages ranging in size from ½-oz. to 16-oz. bottles, both cartoned and uncartoned.

PHOTOS, NEW JERSEY MACHINE CORP.

DOUBLE OPERATION is easily performed by labeler attendant, using two hands alternately.

CREDITS: *Pony Labelrite-Convey-O-Mat combination supplied by New Jersey Machine Corp., 16 and Willow Ave., Hoboken, N. J.; Convey-O-Mat set-up machine manufactured by Machinery Mfg. Co., Inc., 2431 Dallas St., Los Angeles 31. Folding cartons, Lockwood Folding Box Co., 251-253 S. Third St., Philadelphia 6, Pa. Bottles, Owens-Illinois Glass Co., Toledo 1, Ohio. Unscrambler, Island Equipment Corp., 27-01 Bridge Plaza, N., Long Island City 1, N. Y.*

THE RESULT is a neatly labeled and cartoned product. Automatic carton set-up machine will work on all sizes of cartons up to 2 by 2 by 8 inches.

TOP DISK of paperboard forms a platform to hold styrene plastic tumblers. Two semicircular cuts around the periphery of the bottom disk with score lines at the center provide a handle when turned up, brought together and slipped through slots in the top disk.

Circular carrier

New construction principle for take-home pack provides for counter stacking as high as dealer wants

A clever solution for big display on limited counter space is suggested by new circular carriers that can be stacked one on the other like a skyscraper devised for Boonton Molding Co., Boonton, N. J., to merchandise the company's new plastic "Laureline" tumblers.

These new table tumblers made of high-impact styrene copolymer were ready for the market after several months of research to give them superior break-resistant characteristics and a design and range of colors which long experience in the sale of plastic tableware indicated would have wide consumer acceptance.

Subsequent experiments, however, proved that ready sale was dependent not alone on getting dealers to display one or two tumblers but rather stacks of them, and in the half-dozen units in which observations indicated they would be purchased.

In approaching the selection of a suitable display device it was immediately realized that conventional display containers, in which six tumblers were packed horizontally on their sides, failed to show off the tumblers to their best advantage. Consequently the search narrowed down to some form of carrier which would enable the tumblers to be displayed in a vertical position approximating the way they would be set on a table ready for use.

While many carriers were in use for beer, carbonated beverages and even canned dog food, none of these seemed appropriate for the colorful tumblers. Furthermore none fully met other requirements: a carrier which could be shipped flat, yet easily assembled by a dealer; one that would complement the colorful plastic tumblers and that could be purchased within a somewhat limited budget.

Confronted with the fact that no existing display would meet their particular needs, Boonton placed the problem in the hands of a leading supplier of paperboard packaging. The problem was solved by using a paperboard disk in which six holes were cut. This disk with tumblers inserted formed a top platform. A second circular disk of slightly smaller size with two semicircular cuts, ⅞ in. from its outer periphery, was provided with score lines at the center. By turning up the two cut portions of the second smaller disk and bringing them together, a very simple yet practical handle was formed, which was inserted and locked into a slot

cut in the center of the top platform. Two supporting "legs" were incorporated by cutting out only limited sections of two of the tumbler holes, the ends of which wedged into small slots in the lower platform, thus giving the carrier the rigidity it needed.

To avoid competition for attention with the colored tumblers, which are made in four shades—ice, lemon, mint and raspberry—the top platform was printed in a small dot and floral pattern in medium gray, while the lower platform was printed two sides in a pleasing shade of pink. The complete assembly becomes a most convenient and attractive carrier for six tumblers, which may be readily inserted and removed. The carriers may be stacked one on top of the other to almost any desired height and thus offer the advantage of a large mass display requiring very limited counter space. The stacking feature is achieved by slipping the handles of the lower carrier through a slot cut in the bottom of the carrier above, thus holding it securely in place.

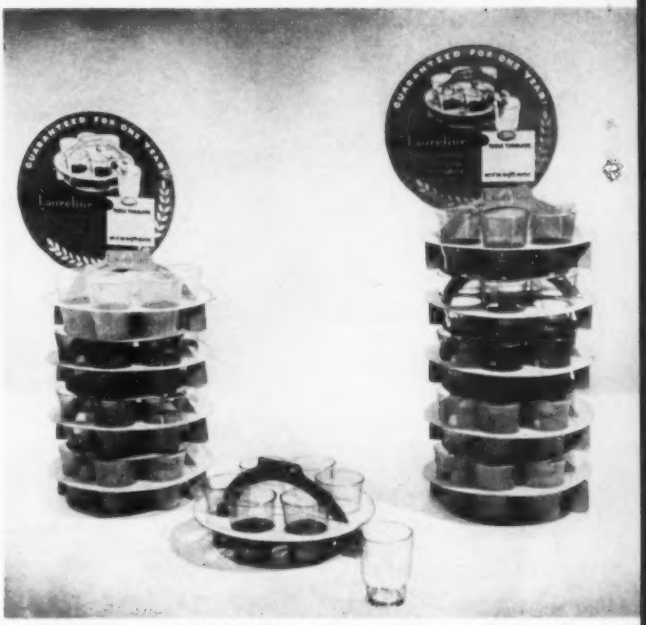
For shipment to the dealer, Boonton Molding Co. is packing 48 plastic tumblers of assorted colors in a corrugated case. This case is constructed so that one complete carrier, holding the six tumblers, is packed in set-up form right in the case, ready for the dealer to lift out and place on his counter. The remaining 42 tumblers are packed in the same case together with seven carriers in the flat to be assembled and filled by the dealer.

Two sizes of plastic tumblers are being packed in this novel circular display carrier: 9¼-oz. table tumblers retailing at $2.50 for a unit of six and 5¾-oz. juice tumblers costing the consumer $1.95 for the half-dozen unit.

The Laureline carrier won a second prize and honorable mention in the Folding Box Competition (see "The Best in Folding Boxes," MODERN PACKAGING, April, 1953, p. 178).

The initial reception given these tumblers, displayed in their circular carriers, has been most enthusiastic by both retailers and consumers, and from sales booked thus far the company is confident that Laureline has a very bright future.

CREDIT: *Circular carrier, National Folding Box Co., Inc., P. O. Box 1004, New Haven 4, Conn.*



STACKING is accomplished by slipping handles of lower carrier through slot in bottom of carrier above so that each is held securely.

CORRUGATED SHIPPER for 48 tumblers contain one carrier set up with six tumblers ready for the counter, with the remaining 42 tumblers and seven carriers in the flat to be assembled and filled by dealer.

Packaging's Hall of Fame®

ARMOUR

MEAT PRODUCTS

To almost everyone the world over the name Armour means meat—quality meat. This interesting and profitable synonymy can be traced back to the very beginning of the company, when Phillip Danforth Armour began wrapping hams and bacon in 1877, labeling them with the firm's name and burning a brand into the skin of the individual hams and sides of bacon.

The sales problems of the meat packer are intensified by the fact that a large proportion of his output consists of fresh meats which are still shipped to the retailer in wholesale cuts and thus have lost their identity by the time they are reduced to steaks, chops and roasts.

Armour realized early that he had to concentrate his merchandising and sales efforts largely on branded items such as canned meats, sliced bacon, frankfurts, breakfast sausage and other packaged products bearing his label that could be widely advertised and would offer the housewife new convenience and economy.

By the time of his death in 1900, his canned-meat catalogue itemized some 63 different canned meats. And the vast opportunities he envisioned of pantry shelves stocked with a wide selection of packaged meats—ready within a few minutes to serve, hot or cold—has continued to spark the transition of the entire meat industry, which a generation ago was very backward in packaging.

The old-fashioned suspicion of anything other than "fresh" meat—or maybe a smoked ham—has been wiped out by packaging and promotion such as Armour has practiced.

Armour's quick recognition of the swing to self service led to its vast package redesign program in 1945 which is generally regarded as one of the most outstanding in the field of modern food merchandising.* And the company's current adaptations of this basic design to include the skillful use of full-color vignettes on canned and frozen-meat packages so essential to today's selling is further indication of the continuing packaging study that Armour does to maintain its top-ranking position in the meat-packing field.

But there are still other reasons for Armour's selection for nomination to *Packaging's Hall of Fame*.

Armour was the pioneer of the flexible vacuum package, adapting it to sliced bacon in 1948. The latest version of this package is shown on this month's cover as symbolizing the company's packaging progressiveness. Armour's experience with materials and equipment for producing this package has been an important contribution in other fields of packaging, for everything from dill pickles to nylon hosiery.

While Armour started principally with metal packaging, no other meat packer probably has done so much to forward the use of new packaging materials. In addition to the flexible vacuum package, Armour has been a leader in the application of various

THE PORK BARREL was about the only package used at Armour's pioneer Chicago plant in 1867. Without refrigeration, pork packing operations were confined only to cold winter months.

CHICAGO'S FAME centers around Union Stock Yards where Armour name today dominates the scene over vast processing plants and general office building.

*See "Armour Star Shines on 500 Packages," MODERN PACKAGING, Aug., 1945, p. 91.

NOMINATED FOR PACKAGING'S HALL OF FAME BECAUSE:

- **Biggest packager in the meat industry, Armour has set a brilliant example of modern merchandising and carried its industry with it.**
- **Never afraid to try the new and different method, it pioneered the flexible vacuum package.**
- **Master of self-service packaging, it has helped push the development of retail meat pre-packaging.**
- **Its modern, streamlined, colorful package designs, product of painstaking market research, set a high standard for all packagers.**

films and coatings for special product requirements and it has developed high-speed methods of using them in packaging.

How they got here

The earliest phases of Armour packaging are rather difficult to document.

However, it is known that as early as 1877—only 10 years after the establishment of the original Chicago plant by Philip Danforth Armour—a Chicago firm by the name of Shober & Carqueville was commissioned to print "colored labels" for Star hams and bacon.

It is not surprising to find that Armour & Co., now the largest volume meat canner in the U. S., was one of the earliest organizations in this country to enter the canned-meats field. Mr. Armour, not long in recognizing that a quality canned-meat line would become an important factor in the expansion of his company, established his original canned-meat operation at the Chicago plant in 1878.

The early influence of P. D. Armour as a meat canner has been admirably summarized by David S. Burt in a series of articles, "Men, Meat and the Tin Can," which appeared in *The National Provisioner* in 1948. Wrote Mr. Burt:

"Armour saw a vast opportunity beckoning the meat canner. He saw tomorrow's pantry shelves stocked with a complete rank and file of main-course items made to order. He saw tomorrow's housewife scanning the shelf a few minutes before dinner time, with a wider selection of tasty viands than she could find at the butcher's. Canned meat, as Armour saw it, added a new layer of production to the entire industry. He planned

TODAY'S PACKAGES have set a standard for forceful design that is instantly recognizable on hundreds of Armour packages made of almost every conceivable kind of packaging material.

YEAR'S MEAT SUPPLY for a family of four. Armour packages almost every kind of meat product that can be better merchandised in a package—a major reason for the company's top-ranking brand position.

ABOUT 1900 Armour's famous "Society Girl" calendars promoted key-opening cans of sliced ham and bacon on back of each sheet, as shown by this one for 1902.

1917 AND 1919 *Ladies Home Journal* ads feature "the ham what am" slogan and increasing number of packaged meats under the familiar yellow oval trademark with blue border used for years.

to sell everything in cans that he sold fresh, and he virtually did."

Armour's oval Veribest label became a familiar sight to readers of *Munsey's* magazine, *McClure's*, *Harper's Bazaar* and other leading periodicals around the turn of the century. Hopeful readers mailed in their prize recipes, hoping to capture a share of the $5,000 offered each month by the company for economy menus. On many a kitchen wall could be seen Armour's Society Girl calendars, carrying sketches of prim Victorian beauties drawn by fashionable artists.

These calendars also had their practical side—the back. Here were pictured typical products in the Armour line, such as Star wrapped hams and slab bacon and Star sliced ham and bacon in key-opening 1-lb. tin containers. Eventually this trade name, along with Veribest, Devonshire and several other Armour brand names, was incorporated in a distinctive oval label which was consistently used for the company's line of products until a general package redesign program was carried out in 1931.

Armour & Co. vigorously promoted the blue-and-yellow oval label. A typical full-page advertisement in the January, 1917, *Ladies' Home Journal*, featuring Armour's Star ham and the famous old slogan, "The Ham What Am!" was headlined: "Star Ham Quality Is Typical of All Armour Oval Products!" The text of the ad pointed out that top grades of each Armour product were marked "so you can distinguish them—identified by Armour's Oval Label, which is both a *trade*-mark and a *grade*-mark, enabling you to select both grade and value . . ."

Canning operations

The successful mechanization of can making and canning around 1900 helped to make it possible for Armour and other meat canners to broaden both their domestic and foreign markets. Like other large food canners, Armour made its own tin containers in the early days.

As can making expanded into a specialized trade and new equipment such as the double seamer made its appearance, packers no longer found it necessary to maintain their own can-manufacturing facilities.

The familiar oval trademarks and labels which dominated Armour packaging until the 1931 redesign program utilized a yellow background and a blue border. The specific trade name, such as Star, appeared in white reverse on a blue band across the center of the oval. There were also certain supplementary label features, such as the figure of a little girl used on the Veribest label above the trade name (which was printed in red). The unifying element, however, which served to tie the various packages and labels together was the Armour oval.

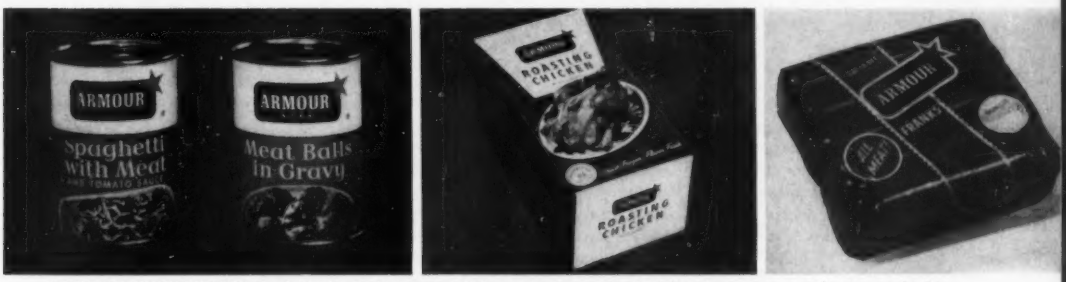
In 1931 Armour & Co. redesigned its wraps and labels. A complete departure from the previous treatment, the new label featured the word Armour's in reverse white out of a dark band across the top of the label. Beneath the company name, on a number of the products, appeared the Star brand name, followed by a star. The specific product name in most instances occupied the low section of the label, in dark lettering against a light background. On the canned products, small vignettes were used showing the food as it appeared when ready to serve. The relatively small scale of the vignettes left a considerable amount of open space in the center of the label, across which was written, in script letters, such selling copy as "tasty sauce!" "famous flavor!" or "selected!"

On some of the new labels and packages, the Star brand name received greater prominence than the Armour name, while in others, such as the canned items, the company name predominated.

With the steady growth of self service in food stores, Armour sales executives a few years later began to give consideration to another package-design program which would give the products a stronger merchandising impact in retail outlets. The World War II period—during which selling was perhaps one of the least of Armour's problems—afforded an ideal opportunity to develop this project without affecting sales.

1931 PACKAGES begin to show the trend toward a unified family design featuring the Armour trade name and the Armour star on every label.

IN 1945 Armour launched an over-all redesign program to sharpen brand identity for self-service merchandising that is regarded as one of the most outstanding in the food industry.



PRESENT REFINEMENTS of the basic design reveal the importance attached by Armour to continuing packaging study as well as adaptability of basic trademark to various types of packages. Principal additions to the design are the full-color vignettes so essential in today's self-service markets.

Work on the new packaging program actually got under way in 1943 —when F. W. Specht, then Armour vice president in charge of sales and now president and chairman of the board, proposed that the full line of packages be thoroughly reviewed for possible redesign. Mr. Specht pointed out that the trend toward self service and customer selection of products imposed a sales strain on labels and packages which had never previously been equalled and that an entirely new concept of labeling was required. Faster brand identification at the point of sale was becoming imperative. Mr. Specht's view was that while the existing labels were good individually, they had no particular family resemblance, with the result that different items in the line frequently looked as if made by different companies. After a preliminary review of the problems involved, Armour & Co. in November, 1943, commissioned Raymond Loewy Associates to investigate a possible revised Armour package design.

One of the first points studied was the relative importance of the words "Armour" and "Star" on the labels and packages. A preliminary survey by professional shoppers showed that while very few customers asked for "Star" products, many specified "Armour's." Accordingly, it was decided that the Armour name would be featured most prominently in the new design.

Five basic characteristics marked the proposed new labels:

1. All emphasized a single new trademark, featuring the word Armour in bold reverse on a maroon rectangle with rounded corners. The Star brand name, written out beneath the Armour name in small letters, was further highlighted by means of a five-pointed star tangent to the upper right corner of the rectangle.

2. Several fonts of original type faces, in a variety of sizes, were designed for use on the labels.

3. Each major product group in the line was assigned its own original color combination, using soft, muted colors on the pastel side. The colors were chosen because they were pleasing to women, who do approximately 90% of the food buying, and because even in a poorly lighted position they did not tend to appear dark, as primary colors might. Previously, although blue and yellow had predominated on the labels, there had been no distinctive color treat-

DIFFERENT WAYS to package bacon (14 all together), in addition to the flexible vacuum package on our cover, are used by Armour to meet all merchandising requirements: oversized hotel special for large-volume institutional users, various transparent packages, slabs in greaseproof paper for those who prefer to slice their own, 8-oz. and 6-lb. cans for long-term storage.

ment by company divisions. Among colors recommended for the new labels were Armour maroon for all divisions, claret red for canned foods, cedar red for smoked meats, dairy blue for dairy and poultry items, and frosted green for fresh frosted foods. These colors were specified for the star and for the solid area of color used on the lower half of each label, affording immediate divisional identity for each product in the line.

4. All label designs were streamlined and simplified to achieve the greatest possible degree of simplicity and legibility.

5. Product illustrations, "plus" phrases and all possible extraneous material used on the previous labels and packages were eliminated in the interest of clean-cut appearance and maximum legibility.

The basic design called for an approximately even division of each package and wrap into white on one side of the largest surface, with color on the other. Specific product name was printed on the color portion of the package. This arrangement was closely adhered to throughout the entire line, giving the packages an unmistakable air of simplicity and organization.

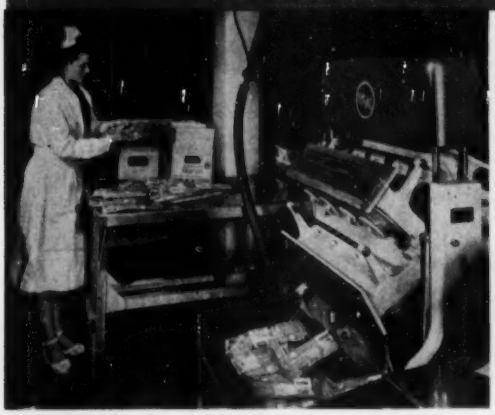
In fact, it was the very forcefulness of this division and use of color that eventually involved Armour in a court battle with the Campbell Soup Co. and the Carnation Co. in which the latter companies brought suit to try to prove that Armour's use of maroon and white was an infringement of their trademarks. In upholding Armour, the courts established precedent that there can be no monopoly of color and that color alone cannot be registered as a trademark.†

The suggested new labels were favorably received by Mr. Specht and other Armour officials. They realized, however, that in the final analysis it was the consumer who had to be satisfied with the new program. Accordingly, Sam Teitelman, manager of marketing research, was assigned the task of testing the new labels for possible weak points.

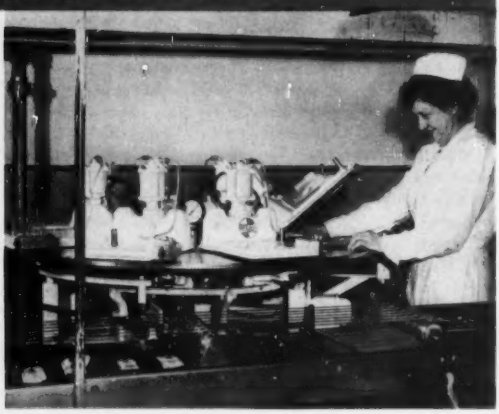
Was Armour really a better trade name than Star? Should product illustrations be eliminated from the labels? What about the "plus" phrases and product descriptions which had

†See MODERN PACKAGING, Nov., 1948, p. 204; June, 1949, p. 126.

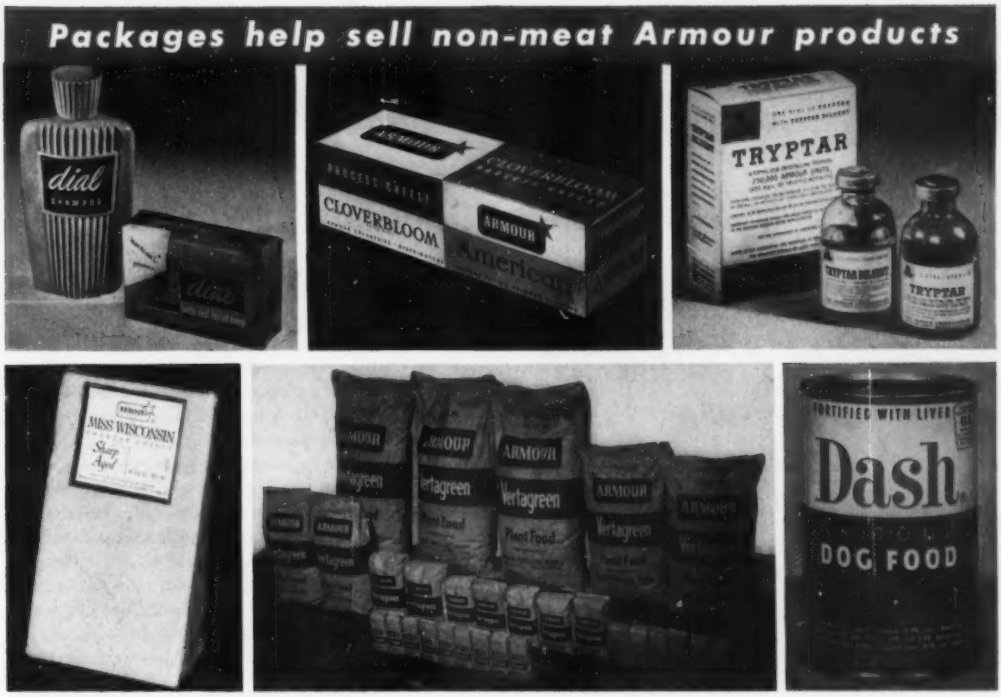
Vacuum packaging equipment



MACHINE of the type currently in use at Armour for vacuum packing and sealing flexible bacon packages.



ROTARY-TYPE high-speed machine for vacuum packaging bacon, now under test at the main Chicago plant.



SOME 2,000 Armour products, a few of which are illustrated here, include drugs, soaps, dairy products, fertilizers, animal foods, abrasives, leather, chemicals and many others for homes, farms and factories. They constitute some of the most diversified packaging operations in American industry.

played such an important part in the 1931 design? These were typical of the many questions which had to be answered. Actual sales tests of representative new labels were ruled out, because at that time products were in such short supply that women would buy almost anything, regardless of their label likes and dislikes.

Pre-testing technique

It was felt that conventional consumer-preference tests, in which subjects are shown four or more labels at once and asked to decide which they like best, were not suitable for analyzing consumer reaction to the new design because brand preference entered too strongly into the test. Instead, Mr. Teitelman and his associates developed a new type of test which they named the "paired comparison flash impression" technique. It involved the use of a small carrying case which opened vertically in the center, providing four shallow shelves —two on each side—capable of holding six 12-oz. luncheon-meat tins.

Rather than exposing all the labels simultaneously, the technique consisted of covering all labels with drop curtains, then lifting individual flaps so that the subject could give a "flash" impression of which of the two labels exposed—new or old—she liked better. The procedure was followed first with the right-hand flap and then the left, behind which two competing brands were displayed. Only after a choice had been made on each side were both curtains raised simultaneously and the subject asked for her final choice between the two "semi-final" winners.

The theory of this test method was that since it always offered a choice between only two labels, permitting no pondering or "second guessing," it yielded a true index of the flash impression sought. In administering these tests, through the Home Arts Guild and the Home Economics Center, to more than 500 women, the new and old labels were rotated to eliminate possible bias between the top and bottom portion of the display. Competitive labels were similarly rotated.

Making due allowance for the housewife's familiarity with the former labels, the proposed new Armour labels showed up quite favorably in these tests.

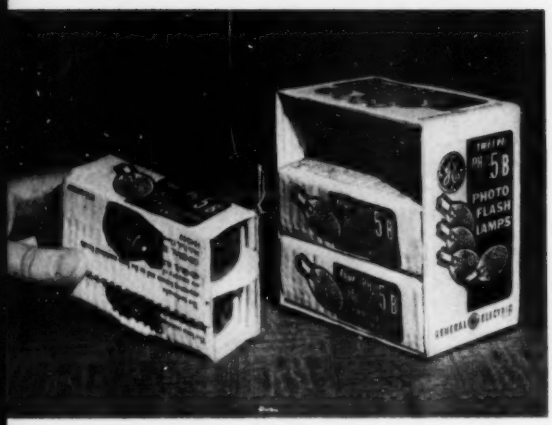
Although the preliminary tests looked good, Armour officials left nothing to chance. Results of the tests were next verified by means of further preference and legibility psychometric tests at the Seagram packaging laboratories in Louisville and Baltimore. Here, under carefully controlled procedures involving many mechanical aids, essentially the same paired-comparison tests were made, plus exhaustive tests of the legibility of the labels.

Actual package and label production began in September, 1945. Treet became the first Armour product to appear on the market with the new label design, closely followed by other items. Inasmuch as the broad scope of the program encompassed

(This article continued on page 225)

Design

Coat-pocket packs for photoflash bulbs



Further trend to pocket-sized packages for photoflash bulbs is indicated by General Electric Co.'s new package for 12 midgets that measures less than 5 in. square and only 3 in. deep, developed after six years of market and packaging research. This new "12-8-4" lamp package contains three packs of four flashbulbs each and replaces the former eight-lamp container. The three compact corrugated packs—each almost as small as a pack of king-size cigarettes—tuck firmly into an open-end corrugated carton. For the dealer, this new package does away with loose bulb sales, saves store space and enables far more effective display. For photographers, it is a package that suits all budgets, coat pockets and carrying cases. Each four-lamp pack has two compartments housing two bulbs each. Die cuts separating the two lamps in each compartment also permit quick removal of a bulb with one hand.

Long will live the Queen on commemorative packages

Around the world the packages exemplifying Britain's art in decorative packaging to commemorate the coronation of Elizabeth II this month will be long cherished as collector's items. According to R. C. Williams & Co., New York distributor of fine imported foods, these handsomely lithographed metal packages and glazed earthenware containers are being received in the U. S. with tremendous interest. A full-length portrait of the Royal Couple in ceremonial robes features the round metal container holding 17 oz. of assorted biscuits from the well-known factory of Huntley & Palmer. British Colony emblems and London landmarks decorate its sides. Tickler's Orange Marmalade comes in the cylindrical glazed earthenware jar embossed with a profile of the Queen wearing her Crown. The three metal containers in the lower half of the illustration package Thorne's of Leeds English toffee, one picturing Elizabeth in riding habit and the other two in her Coronation Crown.

Histories

A new way to see what's inside the carton

By means of the unusual die cutting of the carton, a shopper can see at a glance that there are three heat-sealed packets of Tasti-Diet Dietetic gelatin dessert enclosed in this package. The die-cut opening at the upper right corner of the carton carries over from the front face, across one side panel and down the back of the package. An elongated arrow printed on the face of the package calls attention, in reverse lettering, to the fact that there are "3 envelopes—nine servings." A full-color illustration of a serving of the product ready to eat provides the necessary eye appeal, yet Flotill Products, Inc., makers of the product, effectively get across the low-calorie and dietetic selling points with copy and four illustrations of girls going through their calisthenics.

CREDITS: *Carton, Rossotti California Lithograph Corp., San Francisco. Pouch paper, Riegel Paper Corp., New York.*

A package that counts your calories

The 10-day diet plan encompassed by Calometric Weight Control and Calometric Tablets is based almost completely upon the package. Each "matchbook" unit represents one day of the 10-day diet. The 12 sticks contained in each are labeled with varying numbers of calories that total 1,200—the limit for the day. As calories are consumed in accordance with the breakfast, lunch and dinner menus printed on the inside of each "match cover," the corresponding number of calories are torn out and discarded. In addition, three Calometric Tablets—supplements to the food allotments—are cellophane strip packaged and fitted behind the "match sticks." Three-meal menus and stylized drawings are printed on the inside of each cover, which doubles back for closing.

CREDITS: *Design, Seymour Robins, New York. Strip packages, McKay-Davis Chemical Corp., Toledo, Ohio. Carton, contract packaging, assembling and die cutting, Wolf Die Cutting Co., Inc., Brooklyn, N. Y.*

Golf balls in contoured plastic

Acetate spheres electronically sealed provide striking new kind of three-pack for U. S. Rubber

THREE IN A STRING, balls are individually sealed in acetate globes, to be sold as a unit or torn off as needed. Two preformed shells are fitted around the balls and electronically sealed at the fin.

READY FOR PLAY, one of the balls is removed from its shell. Thin, semi-flexible acetate, drawn to 0.004 in., is easily torn open when desired, aided by a notch in the fin seal.

A radically new kind of transparent packaging makes its debut with the introduction of U. S. Rubber Co.'s new 1953 line of top-quality, mesh-marked golf balls. Making use of preformed hemispheres of a thin, semi-flexible cellulose acetate sheet, it seals each ball in a complete sphere of the glistening plastic, with a circumferential fin seal produced by an interesting new type of high-frequency heat-sealing equipment developed particularly for this type of package.

Thus each ball is completely sealed, although completely visible—protected from air, light and soil until ready to be played. U. S. Rubber calls the package "Plasti-Guard."

In line with conventional practice of merchandising three balls as a unit of sale, U. S. Rubber uses three spheres joined at the periphery of the fin seal. Actually, the vacuum-formed shells come as a series of three connected hemispheres and three balls are filled, covered and sealed in one operation. Yet, for one-at-a-time use or sale, a single ball may readily be torn off at the half-inch connecting strip and a notch in the fin makes it easy to open the sphere and remove the ball.

The acetate is actually so thin as to be on the borderline between a film and a sheet material. It is originally a 0.0075-in. sheet, but in the drawing comes down to about 0.004 thickness in the rounded area. Thus, except for the rigid fin, it is really only a semi-rigid material.

Economical use of plastic and low-cost production and handling methods bring the quality look of a semirigid transparent plastic package down to a practical level.

While U. S. Rubber is the first to use this new type of package—which is a logical extension of the acetate domes now frequently found on carded merchandise*—the fact that the plastic spheres are produced by one of the country's largest manufacturers of plastic and paperboard folding cartons, plus the availability of the simple-to-operate sealing equipment, suggests applicability to numerous other products—whether round or irregularly shaped. The shape of the mold used in producing the half-shells, which are made by a vacuum-forming process, determines the shape of the package and of course the sealing dies can be similarly made to follow the contours of the product.

The actual packaging operation is quite simple. The shells, the special high-frequency sealer and two operators are all that's needed. In the beginning, as might be expected, U. S. Rubber had some difficulties with the sealing operation. But with a few gadgets of its own and the development of the special electronic sealing equipment, the operation worked.

While U. S. Rubber is not talking about its own innovations, the general principles of the equipment are known. It consists of a high-frequency generator, an electronic sealing press and a turntable. Multiple cavities or positioning devices are mounted on the turntable. Six to eight cavities can be provided, but in the case of U. S. Rubber's golf balls, three was the logical number. Actually, as many items can be sealed at once as the generator can handle electronically.

*See "Transparent Carding," MODERN PACKAGING, March, 1952, p. 200.

Sequence of operations is as follows:

As the turntable starts to move, the operator loads one position with the bottom half of the three-ball shell, the balls and the top half of the shell. The turntable stops when the loaded position comes under the press and a microswitch is closed which causes the press to close and the power to be applied. At the end of the sealing cycle—usually one to two seconds—the press opens and the turntable moves to the next position. This cycle is repeated automatically. The sealing rate varies between 12 and 20 operations per minute. Ejection of the package may be automatic or manual and the equipment may be operated without any special training.

Although U. S. Rubber happens to be using cellulose acetate on its equipment, the sealer will work with other plastics, the manufacturer reports.

U. S. Rubber is bringing out the improved package coincidentally with the introduction of an improved mesh-marked ball which, in addition to reviving a type of cover marking that was popular 25 years ago, includes several new features for better wear and performance. The package is currently being used on three mesh-marked balls—the U. S. Royal Special, the U. S. Royal Blue and the U. S. True Blue—in addition to the top-quality dimple-marked ball.

The new dozen counter carton, of conventional size and shape, presents a strikingly different impression when ranged along with competitive brands in the golf-shop showcase. Instead of the customary three-ball trays overwrapped with cellophane, these balls are completely visible in four rows of three each, neatly held in position by slotted partitions which catch the connected fins of the three-ball all-plastic unit. Colorful box linings emphasize the sparkle of the plastic and the whiteness of the balls. Each ball is positioned, when sealed in the plastic shells, so that the brand name and number face outward in the display carton. No wrap is used. A chipboard tuck-flap folding carton holds the package together during shipment.

SELLING DISPLAY stands out from competitors on the golf-ball counter. Four three-ball units, neatly held in dozen carton by slotted dividers, make a package that is conventional in size, but unique in appeal. Three-ball tray and film overwrap are dispensed with.

CREDITS: *Plastic shells vacuum formed by Robert Gair Co., Inc., 155 E. 44 St., New York, using acetate sheet extruded from Hercules "Hercocel" acetate. Display and shipping cartons also by Gair. High-frequency sealing equipment by Thermatron Division, Radio Receptor Co., Inc., 251 W. 19 St., New York 11.*

Stretch-out with storage

Air-conditioning permits storage of refined sugar in bulk and spreads packaging economically the year round at Godchaux

Packaging costs are increased and packaging efficiency is reduced in the handling of some agricultural products where the product must be harvested, processed and packaged all at once. Very high capacity packaging equipment must be provided to keep up with processing at harvest times—and may lie idle the rest of the year. In many cases there seems no way out of the dilemma, because once the raw product is processed, it must be gotten into a package immediately for protection.

This is unfortunate, because handling of packages into and out of storage can be expensive. The extra aging and handling also make extra demands on package performance and take their toll in package appearance. And the packager must commit himself in advance to the proportions of the total amount of his harvest that he will put into various sizes and types of containers.

Godchaux Sugars, Inc., New Orleans, had a particularly ticklish problem. Refined sugar takes up moisture from the air whenever relative humidity gets to 60% or more and the humidity at the company's Reserve, La., refinery goes above 60% at least 300 days in the year. Bulk storage of refined sugar, as practiced by beet-sugar refiners in less-humid areas of the country, seemed out of the question.

Godchaux found an answer to the problem during the planning stages of a plant modernization. Primary purpose of the construction was to provide additional storage facilities, but the company's officials saw at the same time that modern dehumidifying and temperature-control equipment might make it practical to store bulk refined sugar even in Louisiana's soggy climate. Packaging operations could then be spread out over the whole year. Investigation convinced them that the possible gains in efficiency of the handling and packaging operations might very quickly pay for the air-conditioning.

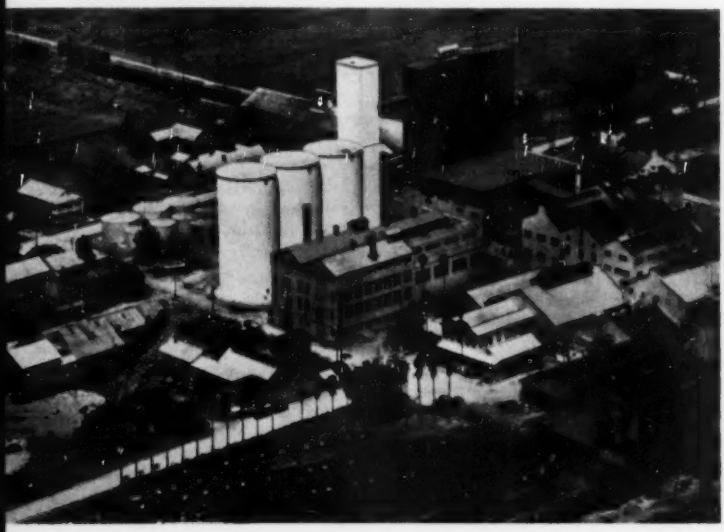
This is a striking example of seizing an opportunity too often overlooked in packaging. By a relatively simple change in the handling of the product, Godchaux has made its packaging operation completely independent of processing—a change which pays off in many ways. The same basic principle could be applied in many industries.

The solution at Godchaux was the construction of a group of air-conditioned storage bins with capacity to store excess sugar refined during one cane-cutting period over that which normally can be expected to be sold and shipped during the period. Instead of racing to get the refined sugar into its final packages before it solidifies into a solid crystalline mass, Godchaux now stores the sugar in a battery of 103-ft.-high, 50-ft.-diameter reinforced concrete bins. Dehumidified, conditioned air circulating through an inner jacket keeps the sugar free flowing for easy automatic packaging at any time.

The sugar is drawn from the bins for packaging—in multiwall kraft bags or paperboard cartons—at a rate paced to sales. After automatic bundling and palletizing, much of the packaged sugar is immediately fork lifted into waiting cars on an indoor rail siding. There is, however, a radiant-heated warehouse area for packaged sugar which serves as an accumulator before peak demand periods; this helps to smooth out the day-to-day packaging schedule.

Packaging under the new arrangement is a much more orderly process in a number of ways. For one thing,

STORED in the tall, white, air-conditioned bins (center of picture) at Godchaux Sugars, Inc., refinery at Reserve, La., refined cane sugar keeps indefinitely. Formerly sugar had to be packaged as fast as it was refined, with the high-capacity packaging machines—needed to keep up with processing at harvest time—lying idle between cane-cutting periods.



sugars of various grades of fineness naturally accumulate, in the screening process, at differing rates. Some grades, such as fruit granulated and manufacturers special, accumulate slowly because they represent a relatively small proportion of the yield.

The new storage facilities make it possible to accumulate these grades to uniform 100,000-lb. quantities and thus to package them on an orderly schedule.

Because packaging machines do not now alternate between periods of all-out, seven-day-a-week driving pressure and long periods of total shut-down, maintenance is less of a problem. Emergency maintenance and repair situations that were common under the old pattern of operation are now largely eliminated. Packaging personnel problems are fewer, too, now that regular, year-round work is available.

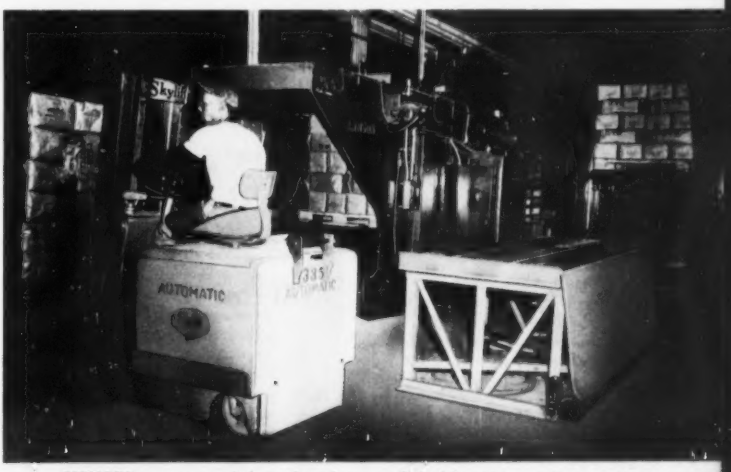
Besides dehumidifying bulk-sugar storage areas, it was found economical and advisable to provide also for full air conditioning and dehumidification of the packaging area as well. This, together with a dust-collection system, has eliminated troublesome sticking and binding of the packaging machinery, particularly fillers and weighers. An appreciable reduction in down time and maintenance can be traced directly to this.

Three 55-ton-capacity conveyors move the sugar from bulk storage to packaging machines. There are also special feed devices for handling 6X sugar and brown sugar. Packaging machinery includes 18 units in all, for packaging 6X and brown sugar in 1-lb. cartons and for bagging sugar in 2-, 5-, 10-, 25- and 100-lb. bags. Packages up to the 10-lb. size are automatically bundled in 60-lb. lots in a glued kraft paper wrap as the final stage of packaging.

Conveyor equipment takes the packaged sugar from the upper-level packaging room to the warehouse-shipping area, where two automatic palletizers arrange bundles into loads up to 2,880 lbs. on 44-by-48-in. four-way-entry wood pallets. Palletizing by eliminating costly hand loading has speeded up truck and rail-car loading by 50%, according to Godchaux officials, who say that the mechanized handling also keeps packages in better condition. Conveyors leading from the packaging area to the palletizers are arranged so that packages can be accumulated and fed to the palletizers according to the sizes needed for loading a particular truck or car.

Loaded pallets go directly into cars or trucks or into temporary warehouse storage. The refinery can now pack and ship 3½ million pounds of sugar in a 24-hr. day.

PACKAGED on an orderly schedule, sugar is drawn from storage bins to fill sales requirements as they come along. Before bulk storage was possible, packaging was done under pressure in a grand rush whenever the refinery was operating. Air-conditioning, filtering and dust-collection facilities in the packaging area reduce machine down time considerably.



SHIPPED as soon as it is packaged, most of Godchaux' sugar does not have to be handled into and out of warehouse storage. Bags of sugar, paper bundled at final stage of packaging lines, are gravity conveyed to these automatic palletizers. Fork lifts take pallet loads to undercover rail and truck docks or to temporary storage. Palletized handling increased loading speed 50%.

CREDITS: *Bag packers for 2-, 5- and 10-lb. sizes, Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo 13, N. Y. Packers for 25- and 100-lb. bags, St. Regis Paper Co., 230 Park Ave., New York 17. Carton packers, Pneumatic Scale Corp., Ltd., 65 Newport Ave., Quincy 71, Mass. Weighing equipment, Richardson Scale Co., 668 Van Houten Ave., Clifton, N. J. Palletizers, The Lamson Corp., Syracuse 1, N. Y. Automatic bundling equipment, Standard-Knapp, Div. of Emhart Mfg. Co., 127 Main St., Portland, Conn.*

A new idea in footwear packaging is this combination display and folding carton with snap-action closure for Boston Athletic Shoe Co.'s new line of Little League shoes. Double-thickness hinged cover with extensions between top and sides of carton permits easy opening, eliminates loss of covers. "Springlok" carton, Thames River Div., Robert Gair Co., Inc., New York.

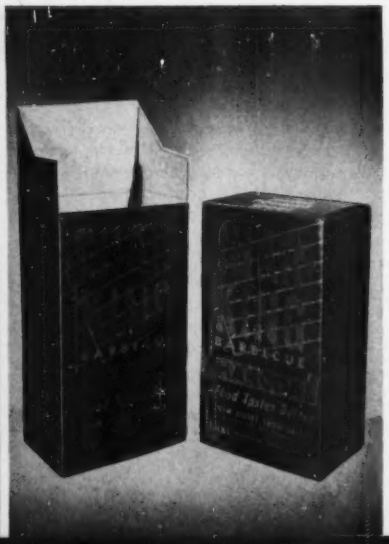
Individual-portion, disposable pouches packaging "Individually Yours" soy sauce permit the sauce to flow only while the pouch is being squeezed. Partly slit to facilitate opening, top of the transparent envelope is easily torn off to expose the mouth of a controlled-flow spout which, when squeezed lightly, shoots out in a narrow stream. When pressure is removed, the spout resists the flow even though the pouch is held downward. The pouch is polyethylene-coated cellophane. Pouch, Purity Pac, Inc., Unionville, Conn. Pouch material, Cheslam Corp., Div. of Chester Packaging Products Corp., Yonkers, N. Y., using Bakelite polyethylene.

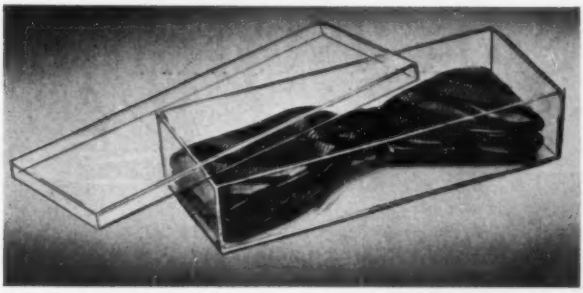
PACKAGING

"Penny" nylons, packaged for specific appeal to the sub-teen and teen-age markets, tie in with the national comic-strip character. Box wraps and cellophane envelopes for both nylons and bobby socks, which are scaled to teen-age proportions, feature amusing drawings of "Penny" in typical teen-age poses, printed in four colors with yellow background. Wraps and envelopes, Lassiter Corp., Charlotte, N. C.

Pressurized dispensing metal cans now packaging Shulton's Old Spice Smooth Shave are designed with an ivory-colored background, blue sailing ship and red signature to match the bottles for other grooming aids in the line. The foam-type valve simulates the Old Spice bottle closure. "Spra-tainer" can, Crown Can Co., Div. of Crown Cork & Seal Co., Inc., Philadelphia. Valve, Oil Equipment Laboratories, Inc., Elizabeth, N. J.

Department stores and other dealers who would not handle charcoal when it was packaged in bags, because of breakage and dirt, have placed orders with the New Jersey Charcoal Co. for Char King Barbecue Charcoal since the introduction of this convenient reuse container. The stitched, die-cut box, a first-prize winner in the recent Fibre Box Assn. competition, has a special tuck-in flap top that acts as a pouring spout. Design, Gilbert D. Snyder, New York. Box, National Container Corp., New York.





Sales of Cutter hand-tied bow ties are reported to have increased from 30 to 40% since being merchandised in these transparent polystyrene plastic containers. Cutter Cravat, Inc., maker of the ties, is believed to be the first manufacturer to package bow ties individually. The two-piece box has customer appeal, enhances the appearance of displayed merchandise and permits the tie to be shown without danger of damage or soiling. It has re-use value for the purchaser as a holder for tie clips, cuff links and other jewelry, and the tie has added appeal as a gift item. Container, Bradley Associates, Inc., Chicago.

Whitehall Pharmacal Co. recently switched to an all-metal lithographed can for packaging its BiSoDol antacid powder. Square-breasted-top cans with metal screw caps were selected. The can opens and closes easily and firmly on a quarter turn and is lined with 0.032-in. white blotting paper. Three sizes of cans are used: 5, 3 and 1 oz. Cans and caps, Continental Can Co., New York.

PAGEANT

Before deciding on the packaging for its new line of candles for marketing through food stores, Candle-Lite, Inc., made a study of consumer preference in candle buying. The result is this new Emery Cameo "Twin Pak" line—two candles packaged in a cellophane-over-wrapped tray—of two popular sizes in six of the most popular colors. The cellophane overwrap features a colorful Cameo and prominent price marking. Overwrap, Shellmar Products Corp., Mt. Vernon, Ohio. "Kliklok" trays, Sutherland Paper Co., Kalamazoo, Mich.

Transparent and opaque acetate are combined in making this Lactona Junior tooth-brush holder, the top of which is stamped with novelty figures—clowns, pirates, cowboys—to intrigue the youngster. Transparent acetate sheeting is used for the actual holder, with a vacuum-formed grooved center to hold the brush in place. Its outer cover is of white opaque acetate. Acetate, Celanese Corp. of America, New York.

Lever Bros.' latest premium promotion is this Rinso carton in which three packages of Burpee flower seeds are put right inside each economy-size box of Rinso. Seeds are packaged in colorfully printed laminated pouches of acetate film and aluminum foil, made on high-speed machinery. "Metalam" pouches, Dobeckmun Co., Cleveland. Packaging equipment, Stevens-Wiley Mfg. Co., Philadelphia.

UNIT PACKAGED

HARDWARE FITTINGS for General Motors' cars are now delivered to assembly plants unscathed in unit cellophane packs as shown in inset photo, ready for installation.

Unit packaging of parts for industrial use goes back to the busy assembly-line plants of World War II when it was mostly a manual, or at best, a semi-automatic operation. At that time production men envisioned a steady development of the trend with a decisive swing toward automatic packaging. However, the development was solved by shortages of packaging materials and automatic machinery.

Packaging materials are generally in good supply now and several types of filling and forming machines have since been introduced. Encouraged by these developments, a number of industrial firms have started to take advantage of the savings and efficiency which is possible with automatic packaging.

Typical of these organizations is the Ternstedt Division of the General Motors Corp. in Trenton, N. J., where automatic unit packaging is chalking up impressive savings in manhours and dollars over manual wrapping. The division packages hardware accessories in cellophane pouches and ships them to assembly plants, where they are installed in General Motors' cars.

Ternstedt is only one example of the many firms mastering the techniques of packaging industrial items automatically. Others reportedly doing a similar job include such prominent companies as Delco Remy, Division of G.M., North American Aviation, New Departure Division of G.M., General Electric Corp., Wiremold Corp., The Stanley Works, Brush Development Co., Western Electric Co. and Fafnir Bearing Co.

Industrial packaging has been far outdistanced by unit packaging of hardware items earmarked for over-the-counter sales. In the latter case, the spur has been the necessities of modern merchandising practices. But for both types of packaging the methods of machine application are the same and the industrial firm can learn much from the manufacturer of consumer hardware products.

Though not concerned with merchandising to the ultimate consumer, the industrial producers such as General Motors' Ternstedt Division are prompted to explore unit packaging further, not only to protect parts but, even more significantly, to cut packaging costs to the lowest possible level.

FOR THE ASSEMBLY LINE

With automatic machinery, cellophane is finding a new field in purely functional plant-to-plant protection of parts

After all, company management might ask, where can production costs be pared? Prices of basic materials are set. Labor costs are on a contract basis. Taxes are set. Other operating costs are adamant. A promising point of attack is in the field of materials handling, which is practically in the pioneer stage. The same efficiency which characterizes the automatic packaging of these auto parts can, according to the company, be applied in many other areas of packaging and shipping in the 1,085,000-sq.-ft. plant.

As one of many suppliers to the far-flung General Motors organization, the Ternstedt Division feeds parts to the parent company's assembly plants throughout the world. Their stock in trade consists of hardware accessories familiar to every car owner, such as the door and window handles and the gadget that moves the front seat fore and aft.

The immensity of the operation can be gauged by the more than 700 different parts which are produced in the plant and the 1,100,000 packaged units (some contain more than one part), constituting 10 carloads of finished goods, which daily pour out of the plant. Each of the 700 parts poses its own packaging problem. Disciplined in the unrelenting search for a better way to do things, the Traffic, Shipping and Material Handling Department at Ternstedt singled out three parts that offered possibilities for automatic packaging and by so doing sought to lower packaging costs, give greater product protection and provide the visibility needed for rapid selection of parts on the assembly line.

Up until this point none of the 700 parts was ever packaged in a transparent flexible film or packaged automatically in the division. Nominated for the experiment were (1) a robe-cord escutcheon (holds cord in place on back of front seat), (2) assist-strap escutcheon (holds strap on side panel for passengers in rear seat) and (3) seat-adjustor escutcheon (decorative and protective device for front-seat adjustor). All were ideal candidates because they were small in size, comparatively light in weight and needed a unit package to protect their chrome finish from possible contact with any rough surfaces.

Newly developed unit-packaging equipment proved adaptable to the packaging operation, with minor changes engineered by the maker. The machine employs a delivery disk with 20 individual openings which are custom made and large enough to hold the largest of the three parts. This simple strategem makes it unnecessary to lose time changing over from one-size part to another. Required is one operator who divides her time between unloading incoming parts from racks on a monorail and dropping the parts into the individual openings on the feeding disk.

Of course, the operation of the machine is standard for this type of equipment. Moving in a counter-clockwise direction, the delivery disk carries the part into the discharge position. The part to be packaged drops between two sheets of cellophane mounted in roll form on either side of the machine. The webs of cellophane meet between two electrically heated and controlled rotary package-forming dies, which are designed with pockets large enough to handle the three parts. Each third rotation of the dies com-

SINGLE OPERATOR on a new type of unit packaging machine can turn out 2,000 individually wrapped parts an hour at the Trenton plant of the Ternstedt Division of General Motors. When the parts were hand wrapped in tissue paper, it took seven girls to equal about the same production.

TURRET DISK feeds parts to discharge position. It contains 20 individual openings, big enough to hold any of the three parts now being packaged, thus avoiding change-overs. Parts drop between two webs of cellophane which are formed into unit packs by two electrically heated, rotary sealing dies.

pletely seals the film around the product and a rotary knife makes the cut-off at the proper position to form the unit package. The final fin-seal-type package, which measures 4½ by 5 in., slides down a chute into a waiting shipping carton.

Yield of the 300-gauge cellophane is about 1,000 packages to the pound, according to Ternstedt officials. If and when other parts are similarly packaged, the size of the turret openings, the rotary die and the resulting pouches can be adjusted readily.

An automatic counter on the machine regulates the flow of the packaged products into shipping cartons in quantities of 400, 1,000 and 1,500, depending upon the size of the particular part.

Succeeding models of the machine, which are expected to be installed in the Trenton plant and perhaps two other Ternstedt plants, will have a device to perforate the completed cellophane packets; the deflated, flatter packages will permit a higher count per carton.

Ternstedt representatives report that the machine can fill, form and seal about 2,000 parts per hour with the aid of the one operator previously mentioned. Before automatic packaging with cellophane, these three parts were wrapped by hand in tissue paper, five to a bundle. Six woman operators working at a table packed and passed the finished bundles to a seventh, who counted and placed the bundles in cartons. Hourly production: 300 per operator, or 1,800 total. While the actual figures on savings through automatic packaging have not been revealed by Ternstedt, they are obviously substantial, despite the fact that the cost of the packaging material is greater.

Without question, an important progressive step in materials handling has been taken by the company and is likely to be a forerunner of packaging additional parts by this company and others.

The move to unit packaging of parts has been enthusiastically welcomed by the assembly plants. While being shipped and handled, the chrome-finished accessories could be scratched or otherwise damaged, making them unsuitable for installation in the automobiles.

The assembly lines move rapidly and are scarcely the place where parts can be coddled. When parts were packaged in tissue bundles, operators had to spend time shaking them loose and couldn't always give favorable odds on the contents of the opaque bundles. The transparent pouches simplify the problem by making selection and handling easier.

A sign outside Ternstedt's Trenton plant identifies the division as "manufacturers of fine hardware accessories for General Motors cars." That, perhaps, underlines the division's determination to protect the quality of manufactured parts right up to the point of their installation in an automobile. Put another way, the division's point of view finds its best expression in a new twist of an old saying: an automobile is no better than its smallest part. These parts are now carefully guarded in their individual cellophane pouches and when they arrive at a General Motors assembly plant they're bound to be right.

Difficulties in the way of further automatic packaging are found in the size, weight and finish of parts. Among the 700 parts turned out by the division, some are much too large. It is not possible at present, for example, to package automatically a side ventilator window, another one of the items turned out by this General Motors division. Despite these limitations, company packaging engineers have made a tentative list of other parts that offer possibilities. They include: interior handles, window regulator handles, remote handles, interior door handles, center pillar revel molding and sunshade supports.

While numerous hardware manufacturers have discovered the advantages of the unit pack for retail distribution of their products, the entry of the industrial firm into the picture is setting the stage for a new kind of packaging. Automatic packaging provides the key for ever widening adoptions of unit packaging by industrial firms. It also presages an "off-the-beaten-track" market and a big future for manufacturers of flexible packaging materials who are customarily inclined to think of potential largely in terms of quick-turnover, large-volume perishable products.

HAND WRAPPING previously required seven workers. Six women packed the parts in tissue paper in bundles of five; a seventh operator counted them and placed them into their shipping cartons.

LOST TIME in handling tissue-packaged parts was bane of assembly plants. They had to be unwrapped and sorted, were vulnerable to damage. Note carton labels urging the operators to handle the parts with care.

CREDITS: *Forming and filling machine, Pak-Rapid, Inc., 530 N. 21 St., Philadelphia. Cellophane (300 MST), E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. Shipping cartons, Standard Corrugated Case Corp., 686 Grand Ave., Ridgefield, N. J.; David Weber Co., 3500 Richmond St., Philadelphia; Shiffenhaus Bros., 326 Riverside Ave., Newark, N. J., and Allcraft Container Corp., 405 Kingsland Ave., Harrison, N. J.*

Set-up box awards

Third annual competition brings recognition to 56 winners among more than 1,000 entries

Special recognition for outstanding sales-producing set-up boxes was given by awards to 56 winners among the 1,000 entries in the third Annual Set-Up Paper Box Competition sponsored by the National Paper Box Mfrs. Assn. All entries were exhibited at the 35th annual meeting of the association, May 17-20, at the Sheraton-Plaza Hotel in Boston, during which time the awards were presented to the winning box makers and their customers.

The boxes were judged in March at the association's competition headquarters in Philadelphia. First, second and honorable-mention awards, consisting of framed scrolls, were made in 22 End-Use classifications and also for the Best Surface Design and Execution, Superiority of Construction, Best Display Box and Best Transparent Box.

End-Use entries were judged on the general function of the set-up box, covering the ability of the box to protect the product, appropriateness of the package, display value, brand identification, convenience in packaging and inspection by customer, and sales appeal.

A grand-award winner was to be chosen by the delegates to the convention from the winners selected by the panel of judges.

Among the judges were Mrs. Edythe Belmont, Lever Bros., New York; Robert S. Dunlop (retired), Dominion Paper Box Co., Toronto, Canada; Walter Hilliard (retired), formerly with Dennison Mfg. Co., Framingham, Mass.; John H. Paterson (retired), F. N. Burt Co., Buffalo, N. Y.; A. Craig Smith, The Gillette Co., Boston; Martin Ullman, industrial designer, New York.

The really big trend noted in the competition, according to the association, was the growing awareness on the part of the contestants that self service is a factor to be reckoned with. There was evidence that both manufacturers of packaged articles and box makers were designing to produce packages more susceptible to impulse buying and easier for the retailer to handle and display. Increasing use of well-covered box bases with transparent lids to attract the eye of the shopper further pointed up the trend to impulse selling. In these cases, of course, a chipboard sleeve or outer container was used to provide sufficient protection for the transparent lid. There also appeared to be a greater use of die-cut inserts to hold articles in place within the box and to provide better protection for breakable items. The shock-absorbing qualities of a newsboard die-cut insert, it was pointed out, have sufficient "give" in most cases to assure efficient protection.

The boxes winning awards and honorable mentions in their categories are as follows:

First awards

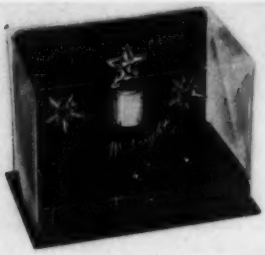
Class A—General Superiority According to End Use: **Drugs:** To the Mason Box Co. for surgical knife blades box, Bard-Parker Co., Inc. Die-cut inserts suspend four groups of 36 detachable surgical knife blades so that cutting edges are secured clear from all contact. Box interior is lined with rust inhibitor, thus blades are not oiled and are ready for pre-operating sterilization. **Cosmetics:** (see photo and caption). **Personal Accessories:** To Dennison Mfg. Co. for Snorkel Pen box, W. A. Sheaffer Pen Co. The bottom is so cut that when inverted in the lid, which has an insert, the pen is displayed in a raised position. Angular display draws attention to the Snorkel filling tube. Gold-colored foil

Argus C-4 display box by Ritchie

BEST BOX IN PHOTOGRAPHIC FIELD
FIRST AWARD IN CONSTRUCTION
FIRST AWARD FOR DISPLAY BOX

For Argus, Inc., by W. C. Ritchie & Co., Chicago. Effective display box with mirrored inside lid. Camera is anchored with screw to die-cut slanted tray. Reverse-printed label is glued to back of tray so that it may be read in mirror. Ribbon supports add to its sturdy construction.

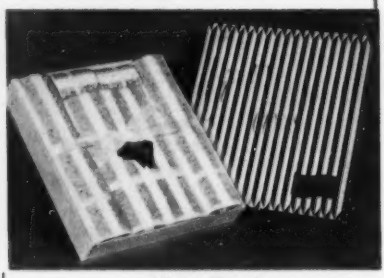
Double winners



Midnight Perfume Ensemble
by Newark Paper Box

BEST BOX IN COSMETICS FIELD
BEST TRANSPARENT BOX

For Tussy Cosmetiques, Lehn & Fink Products, Inc., by Newark Paper Box Co., Newark, N. J. Combination transparent and set-up box gives regal display to perfume-jewelry promotion. Acetate card locks perfume vial in place and holds earrings in suspension.



Martex Towels
by Old Dominion

BEST BOX IN TEXTILE FIELD
FIRST AWARD IN SURFACE DESIGN

For Fairfax Mills, Inc., by Old Dominion Box Co., Lynchburg, Va. Pleasing geometric design is achieved by the use of gold foil, staggered white stripes with blue lettering and masking. These colors are traditional with Martex. Box theme is carried out with the stripes of the towels, which are cellophane wrapped in the base for display purposes and product protection.

frames pen. **Food:** To Congress Paper Box Co. for Tropic Shone Cheese Assortment box, Sue-Ann Food Products, Inc. The flying fish design on the box top and matching insert makes handsome display with tropical theme. **Confections:** To G. A. Bisler, Inc., for Whitman's candy box family, Stephen F. Whitman & Son, Inc. An excellent family of boxes to stimulate the sale of candy bought on impulse. Small size emphasizes theme, "Good things come in small packages." Chocolate and mint-colored wraps have appetite appeal. Pictures reveal contents at a glance. **Hardware:** To F. N. Burt Co., Inc., for drill set family, Standard Tool Co. Bright red boxes with an acetate sleeve provide an attractive visual package for assorted drills, easily accessible and well labeled. Box serves as storage container for the drills. **Photographic Products:** (see photo and caption). **Textiles:** (see photo and caption). **Hosiery and Apparel:** To Henry Schmidt & Bro., Inc., for Hokus Pokus Handkerchief box, J. H. Kimball, Inc. Colorful "court jester" type cube design and cube shape emphasize Hokus Pokus theme. Gold cord is threaded through hinged lid. **Footwear:** To American Paper Box Co., Inc., for Travel Masters Shoe box, Sandler of Boston. A self-locking carrier for shoes requiring no outside wrapping or tying. The lid is hinged to the base at one end and the lid end flap is tucked through a slot in the end of the base, thus locking the box and providing a handle. **Retail Boxes:** To Boxcraft Paper Box Co. for department store boxes, I. Magnin & Co. Plain pink lid with company's name and locations in fuchsia lettering and fuchsia base provide distinctive gift box quickly recognized. **Holiday Box:** To Crompton-Schoettle, Inc., for holiday hosiery gift boxes, No-Mend Hosiery Co. Holiday flavor of continental Europe is captured by this set of hosiery boxes. Quality printing, precise, craftsmanlike artwork and substantial box rigidity connote quality merchandise. **Toys & Games:** To Paragon Box Co. for Treasure Box of Blocks, Harmony Toys, Inc. Similation of treasure chest is achieved by printing of design in blue, gold, brown and black on all outside surfaces. Brass handle and latch add authenticity. Hinged cover is supported by stapled ribbon, more durable than gluing method. Inner box-lid wrap highlights block features. **Stationery:** To Niagara Box Co. for stationery book box, White Plains Greeting Card Co. Dainty yet sturdy box has baby blue cover with white stripping. A flower and bird design is embossed in white on the cover to match feminine paper inside. **Jewelry:** To The Mason Box Co. for men's jewelry box, Ripley & Gowen Co., Inc. Good example of set-up box versatility. Regular set-up box construction is combined with two ivory plastic rims to modernize the package and provide a practical means of assembling complete box unit. The cover is spring hinged. **Office Supplies:** To Congress Paper Box Co. for carbon paper box, Allen Paper Co. A box in good taste for office supplies. Forest-green wrap is printed with orange and yellow-tan ink. Outline drawing of Franklin identifies brand. Base is white and lid is hinged at left. Masked blanks on lid edge allow space for stock identification. **Mailers:** To Niagara Box Co. for book-match mailer, Atlantic Playing Card Co. Attractively meets postal regulations for shipment of book matches by use of foil laminated board lining interior. Loose gummed edges of the lid wrap lap the base and permit sealing. Mailing label is printed on base of box. **Miscellaneous:** To H. H. Woods Paper Box Co. for box holding plastic promotion samples, Koppers Co., Inc. Samples of refrigerator plastics are put in box covered with white Kromkote paper with lid designed to simulate a refrigerator door, hinged at right. An inner box with extended collar allows lid to close tightly. A die-cut platform holds plastic chips firmly in place while displaying them to advantage.

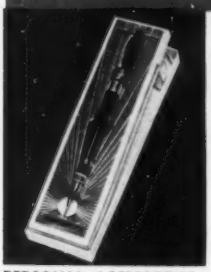
For detail on Class B—Best Surface Design and Execution, Class C—Superiority of Construction, Class D—Best Display Box, Class E—Best Transparent Box see photos and captions.

Second awards

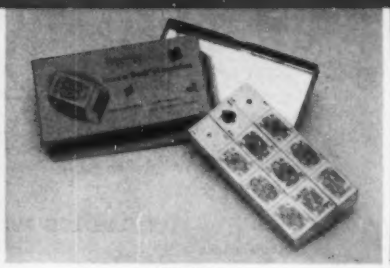
Class A—General Superiority According to End Use: **Drugs:** To Walter P. Miller Co., Inc., for ascorbic acid sample box, Merck & Co., Inc. **Cosmetics:** To Stecker Paper Box Co. for gift set, Beauty Counselors, Inc. **Personal Accessories:** To Dennison Mfg. Co. for belt and jewelry box, Swank, Inc. **Confections:** To E. E. Fairchild Corp. for Kiddy-Pop box, Fanny Farmer Candy Shops. **Household Supplies:** To The Box Shop, Inc., for stainless steel flatware box, The Majestic Silver Co. **Photographic Products:** To W. C. Ritchie & Co. for "172" Movie Camera box, Bell & Howell Co. **Textiles:** To Consolidated Paper Box Co. for sheet and

(*Text of article continued on p. 216*)

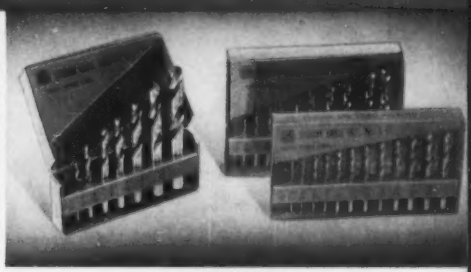
Best boxes in their respective fields



PERSONAL ACCESSORIES



MAILERS

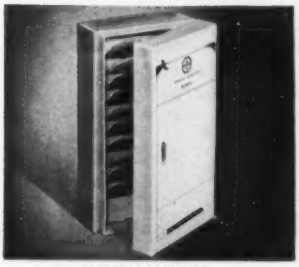


HARDWARE

CONFECTIONS

FOOD

FOOTWEAR

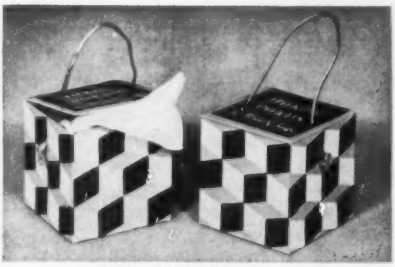


MISCELLANEOUS

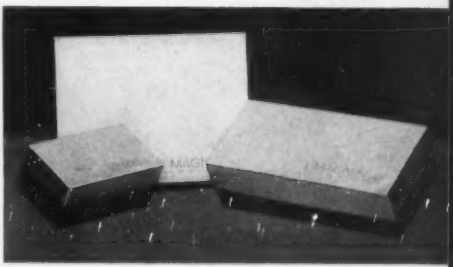
HOLIDAY BOX

STATIONERY

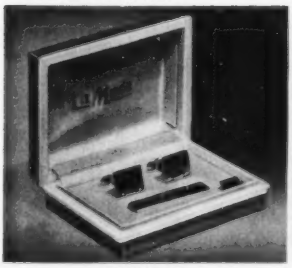
OFFICE SUPPLIES



HOSIERY & APPAREL

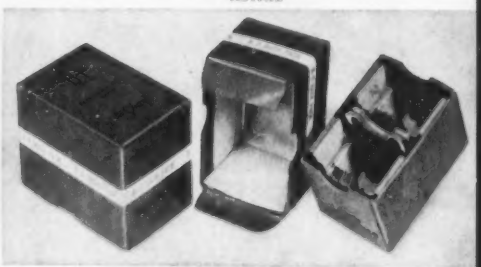


RETAIL



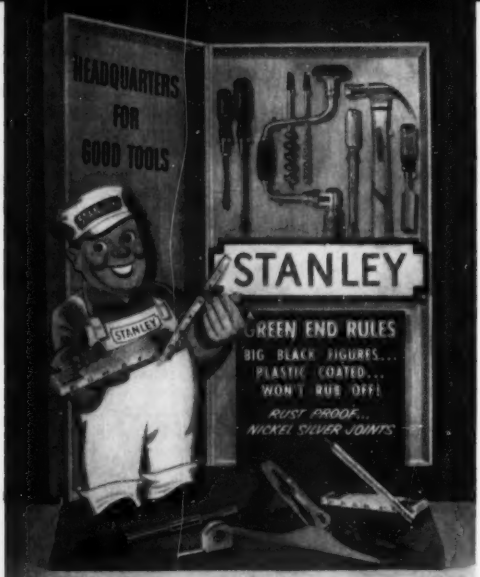
JEWELRY

TOYS & GAMES



DRUGS

Display



Reminders with motion

Actual-sized illustrations of "Stanley" brand tools in this new motion display for store windows, designed primarily to promote Stanley Tools' "Green End Rule," also does an effective job of reminding the shopper of other items in the company's line of mechanics' and homeowners' tools.

The display, which is made of paperboard and lithographed, simulates a tool box. Prominence is given to the Stanley name. The carpenter reproduced on one side of the unit holds a Stanley Green End Rule in his hand, together with a pencil that swings back and forth. Motion is supplied by an economical battery-operated solenoid animating unit. The other side of the display reproduces realistic-looking tools in actual size—the Stanley brand screw drivers, brace and bits, hammer, chisel, plane and other tools—resting in the base of the facsimile Stanley tool chest.

CREDIT: *Display, Einson-Freeman Co., Inc., Long Island City, N. Y.*

New point-of-sale techniques for hardware

The Yale & Towne Mfg. Co., in launching its new "buyer's market" merchandising program, is placing heavy reliance on a wide variety of specially devised point-of-purchase retail sales aids. Illustrated are three of the 10 display units the company uses.

The "Select-A-Lock" dispenser display permits the customer to select any one of four different cartoned padlocks without the assistance of a sales clerk.

Another unit merchandises phone locks packaged in transparent polyethylene bags, while the third is for the Yale Nugget, a small padlock. Each Nugget lock is individually enclosed with its key in a formed transparent acetate bubble attached to a card.

CREDITS: *Select-A-Lock and phone-lock card designs, Charles H. Taylor, Riverside, Conn. Select-A-Lock and Nugget displays, P.O.P. Displays, 37 St. & Bradley Ave., Long Island City, N. Y. Phone-lock card, T. O'Toole & Sons, Stamford, Conn. Select-A-Lock cartons, Simplex Folding Box Co., Lancaster, Pa. Polyethylene bags, U. S. Envelope Co., Hartford, Conn.*

Gallery

Vinyl plastic "ice"

Arrow's Lightweight Shirt is dramatically displayed in this dimensional "cake-of-ice" display, complete with ice tongs. The shirt appears to be buried in the cake of ice. This, together with sales message "It's cool inside . . ." printed on the ice tongs, is aimed at appealing to men shoppers who stop at counters in wilted shirts during the hot summer months.

The block of ice is formed from clear, rigid vinyl sheeting by means of air pressure, then sprayed on the back to give it realistic, icy-blue color tones. The upper part of the display, forming the ice tongs, is made of paperboard and lithographed in black and red. There is a paperboard back on the display, fitted with a tab which supports an actual shirt by the collar, as if it were suspended in a block of ice. The entire unit, which measures 25 in. high, 18 in. wide and 6 in. deep, stands on an easel. The display is easy for the retailer to set up.

CREDIT: *Display, W. L. Stensgaard & Associates, Inc., Chicago.*

Pilferproof lipsticks

Northam Warren Corp.'s newest display unit features the new Cutex Stay Fast pilferproof lipstick package, together with matching nail polish in current top-fashion pink shades. Significant from the packaging angle is the pilferproof lipstick card, developed specifically for the purpose of merchandising lipsticks in food stores. The lipstick is mounted on a card by a formed acetate covering which prevents its removal without practically destroying the card. Northam Warren points out that the lipstick business in the U. S. is estimated at 33 million dollars annually retail. Grocery stores represent about 1/3 of retail sales for a large number of drug and cosmetic items. This means that the normal grocery share of the lipstick business would be about 11 million dollars, whereas in 1952 it accounted for only $600,000 of the total volume. Fear of pilferage has been the primary reason for grocers' failure to capitalize on this potential market—a fear the company feels is obviated by this new package.

What's good for coffee

Does your bag have this PROTECTIVE lining?
PRESERVES FRESHNESS, BECAUSE IT CONTROLS AIR AND MOISTURE CONTENT
Coffee
No other interliners can match the quality protection provided by air-, moisture-resistant PLIOFILM.
For only PLIOFILM offers this two-way insurance against loss of flavor or fragrance:
1. It lets carbon dioxide out
2. It keeps flavor-stealing oxygen from getting in
That's why coffee packed in PLIOFILM lined bags stays vacuum fresh at least three times longer. And that's why so many roasters are now using this modern, thrifty method of packaging—*and saving plenty on shipping costs and storage space, too.*
PLIOFILM lined bags are adaptable to all types of machine packaging. For information, write the Goodyear Packaging Engineer, Pliofilm Dept., Akron 16, Ohio.
Have you met the G.P.E.?
Got a packaging problem? The Goodyear Packaging Engineer can help you solve it by designing a PLIOFILM wrap that's made especially for you. Write or wire him today.
GOODYEAR PACKAGING FILM
Good things are better in
Pliofilm
3-way protection against air, moisture, liquids
Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

may be even better for YOU

—if you're packaging soup mix, gelatin powder, waffle mix, humus

As you can see from what we've been telling the coffee people—note advertisement reprinted on opposite page—a PLIOFILM lined bag has proved to be the best nonrigid quality-control container yet developed for coffee packaging.

And that fact is important news for you. For the same qualities that make a PLIOFILM lining so effective for coffee make it ideal protection for a wide variety of other products, such as flour, soup mixes, chocolate powder, fertilizers, spices.

If your packaging problem involves keeping moisture or air in or out, why not consult the Goodyear Packaging Engineer? He'll work with you in designing a PLIOFILM package that's tailor-made for your product.

Write him at Goodyear, Pliofilm Dept., Akron 16, Ohio

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

AMA 22nd National PACKAGING CONFERENCE and Exposition

Competive thinking and action by suppliers was one of the most striking impressions registered on the record-breaking crowd of more than 27,700 registrants who turned out for the 22nd National Packaging Exposition and Conference held at Chicago's Navy Pier from April 20 to 23. The return of free supply (with the possible exceptions of polyethylene and cellulose acetate) had suppliers vigorously bidding for business by emphasizing cheaper, sales-winning, more protective packages.

The annual show, sponsored by the American Management Assn., was again the biggest in history, in both the number of visitors and the number of exhibitors. How the show has grown each year is shown by this tabulation of the last seven years.

	Place	*No. Exhibitors*	*No. Registrants*
1947	Philadelphia	185	17,100
1948	Cleveland	178	13,606
1949	Atlantic City	200	9,227
1950	Chicago	240	19,175
1951	Atlantic City	264	16,213
1952	Atlantic City	326	21,856
1953	Chicago	342	27,700

Visitors had the opportunity to view 125,000 sq. ft. of exhibits, extending two miles through the north and south halls of the pier. The huge exhibition, managed by Clapp & Poliak was, as usual, literally a showcase for innovations in packaging materials and equipment which go to make up the $10-billion-a-year business.

Continuing the system of alternating the show's location between the Midwest and the East, the Exhibitors' Advisory Committee announced that the 1954 show will be he'd in the Atlantic City Auditorium and will return to Chicago in 1955. Although the site of the latter meeting was not officially revealed, it is believed that the International Amphitheater on Chicago's south side, scene of the 1952 political conventions, will be chosen. The Amphitheater is large enough to house the entire exhibit under one roof.

Next year, the Monday-through-Thursday schedule (April 5-8) will be maintained, but the exhibit will not open every day at 10 a.m. as it did this year. Instead, hours will be: Monday, 10 a.m. to 6 p.m.; Tuesday, 12 noon to 9 p.m.; Wednesday, 12 noon to 6 p.m., and Thursday, 10 a.m. to 3 p.m.

Despite an impressive roster of executives from every branch of industry, the three-day AMA Packaging Conference drew only 900 registrants—350 less than last year. Those who attended were rewarded, however, with a wealth of information on current packaging problems and techniques from representatives of leading companies and the well-run question-and-answer periods gave registrants new insight to some of their specific problems.

A summary of the seven sessions follows.

MONDAY MORNING

Chairman, JOHN A. WARREN, *Packaging Consultant, American Home Products Corp., New York; assisted by* LEE R. FOUKER, *Secretary, Quaker State Oil Refining Co., Oil City, Pa.*

Packaging's Growing Role in the Competitive Market—WALTER S. DRISKILL, *Director and General Sales Manager, McCormick & Co., Baltimore, Md.* Alert, aggressive packaging can do more to reduce the exorbitant costs of distribution than any other one factor that influences those costs. Distribution costs absorb, on the average, 50 cents of every consumer's dollar, Mr. Driskill reported. Through attention to population shifts, shopping hours and, above all, one-stop shopping with self selection and self service, supermarket retailers have cut their distribution costs from the 45 to 50% of a few years ago to 16 to 18% today. Other retailers are beginning to adopt their pattern.

As a result, the desirability of designing a selling package with shelf velocity is becoming more and more vital to the success of manufacturers and retailers alike. Money invested in the proper package design can certainly be the most profitable investment any manufacturer could make and thus the package could easily become the lowest priced but at the same time the most productive salesman any organization could employ.

We are in a highly competitive marketing era and one that will become rapidly more competitive in all lines of business in the months and years ahead. All other steps in the distribution picture are simply a means to an end—to get the product or package and the prospective purchaser together in some retail outlet. There the selling job must be done and in many, many instances the package rises or falls on its own merit. Therefore it is easy to see why it is absolutely essential to have a talking package for any given product because this package, without benefit of human assistance, must sell itself to the consumer against other packages containing similar products merchandised one next to the other.

As retail business becomes more and more concentrated in fewer hands and self service and self selection become economically more desirable, we are rapidly getting more and more into an era of impersonal selling—or perhaps better said—into the era of a selling package. Where brand substitution was once the function of the retail sales person, it is today the function of the package itself through visual displays, point-of-sale advertising and the merits of the package. As a result, the package must be well designed, tailored to the product and capable of literally selling itself.

Packages must be tailored to the markets they are trying to reach, Mr. Driskill warned. The days of scatter-shot selling, hit-and-miss techniques, traveling the side roads, hoping for the best are doomed or shortly will be, so we must know where the potential exists for whatever products we are selling and the most profitable way of reaching this potential.

Since 1940 the population of the United States has increased 22%, the number of children under 10 has grown 57% and the number of family households has increased by 33%. This indicates a most favorable outlook for those manufacturers whose products are necessary for a happy childhood as well as those people who cater to the needs of children.

Eight new babies are born in America every minute, which means a potential new customer every seven seconds. Even if the birth rate should not continue at these extraordinarily

high levels, the huge crop of children of the last few years will exert a marked influence on many lines of business.

Rural population is declining relatively and urban population rising, but in the 10 largest city areas population growth since 1940 has been two and a half times as great in the suburban areas as in the cities themselves. This shift to the suburbs, Mr. Driskill pointed out, has been largely responsible for the development of one-stop shopping centers. Working women, about a third of the adult female population, buy more than 50% of all ready-to-wear garments. Since working conditions largely force them to patronize downtown stores, they represent a market tailor made for downtown retailers.

Before long there will be comparatively few sales tables—food or non-food—where prospective customers and sales people meet face to face. This fact presents a real challenge to the ingenuity of the packaging business. All shoppers today, whether they be men or women, are highly intelligent and want to pick up a package which will literally speak and tell a direct and honest story to encourage them to sample the various products..

A New Approach to Packaging Organization—EDWARD A. LINDQUIST, *Manager, Packaging Division, Production Department, National Biscuit Co., New York.* Too many manually performed packaging operations still exist in industry. These operations by hand are expensive, inefficient, time consuming and wasteful—and they are a stumbling block in the path of packaging progress. In this day of invention and electronics, to package manually is to continue to contribute unnecessarily to production costs and merely to mark time when we ought to be marching ahead.

The goal of packaging at Nabisco is mechanization and automatization of packaging lines to the greatest extent possible. Packages must be the type, he said, that will keep products ahead of the competition and at the same time will be economically produced and easily handled.

In the past five years Nabisco has started into production six new cracker bakeries equipped with high-production band ovens. The change from the reel to the band oven has materially increased production tonnage. The reel oven produced 3,500 biscuits per minute with hand packing. The band oven will produce 10,600 units of the same product every minute, making much more efficient packaging necessary. With the demand for packages that provide greater protection for the product and have the necessary eye appeal, it has been mandatory that Nabisco re-equip practically every packaging line since the new plants started into production.

At Nabisco packaging is coordinated by a packaging committee composed of a chairman and representatives from purchasing, sales, merchandising, production, research, engineering and advertising. This committee passes on all new packaging for existing and proposed products. Its decisions are binding on all departments and when a packaging idea is adopted the various departments proceed at high speed in turning the adopted idea into reality.

With top management represented on the packaging committee, its members are able to keep in constant touch with current developments in the field and make decisions. The latest information concerning new packaging is steadily sifted and reviewed and the findings used to help determine the best course of action for the packaging operation.

Since automatic packaging requires a good deal of engineering, research and production time, a subcommittee has been formed to do the basic exploratory work on new ideas for adoption of automatic packing and the use of new materials. This committee is composed of a representative of the laboratory and three members of the production department.

Nabisco is looking for packages, Mr. Lindquist said, that will retain the product's freshness and quality (shelf life), look attractive to appeal to the customer (design), be easily opened and reclosable, have identification, keep the product from breaking and sell at a price the consumer can afford. This goal requires coordination of market research to determine consumer acceptance, advertising to supervise creation of the package design, purchasing to buy the materials, the laboratory for testing, the traffic department for transportation of materials and product, and sales for distribution. Everybody gets into the act and works hard to make it a success.

The elimination of the cracker barrel was a milestone in the industry. But not until 50 years later was hand packing of crackers into cartons eliminated. These contributions are small and, above all, are too long in coming. As a whole, the advance of packaging equipment is slow when one starts making comparisons with the chemical field, the aircraft industry, radio and television.

MONDAY AFTERNOON

Getting Optimum Performance from Filling Equipment—(Panel Discussion).

Chairman, EDWARD P. LEE, *Technical Assistant to Director of Manufacturing & Engineering, General Foods Corp., New York, assisted by* GEORGE HARRISON, *Manager of Production, Mennen Co., Morristown, N. J.* **Panel members:** WILBUR R. GOUVEIA, *Technical Director, The Fleischmann Distilling Corp., New York;* WILLIAM P. SCHOMMER, *Cereal Manufacturing and Packaged Foods Superintendent, General Mills, Inc., Minneapolis, Minn.;* WILLIAM G. WILEY, *Vice President, The Stevens-Wiley Mfg. Co., Inc., Philadelphia, Pa.;* ERNEST J. MOYAT, *Superintendent, Curtiss Candy Co., Chicago;* CARR H. PARSONS, *Manager, Filling & Packing Section, Lederle Laboratories Div., American Cyanamid Co., Pearl River, N. Y.*

No trick formulas or waving of a magic wand can bring about optimum performance from filling equipment, Mr. Lee said. Instead, close attention to a number of important details, both in selecting and in operating the equipment, is necessary. In making the selection of the equipment, some of the points which should be weighed include comparison of floor space required, installation cost, cost of maintenance and change-overs, and labor cost per unit of finished goods.

The filling machine—the machine that measures out your product for the consumer and frequently sets the pace for the line—is an ideal place to begin to stop losses and plug profit leaks. To operate equipment at the maximum accuracy and capacity consistent with labor cost, maintenance cost, container damage and change-over time, the following suggestions are offered:

1. Select the equipment best suited to your need. Compare the various types of equipment available. Examine them in the field: "Ask the man who operates one." Test your product at the manufacturer's shop or in your plant. Selection of equipment on this basis will "avoid the impulse buying that your merchandise manager is trying to promote at the retail level."

2. Establish indexes for performance in terms of accuracy and capacity. Accuracy of filling in the past has been considered secondary to capacity, but I believe this is unfortunate and wrong. I believe the spotlight being turned on this phase of filler operation by higher costs and shrinking profit margins confirms this belief.

Manufacturers' statements of machine accuracy can be used as a guide, but manufacturers are often limited in their facilities for testing and must use approximations. In submitting samples of your product, send several—representative of the range of physical variation. In requesting weight-accuracy statements, ask for the limits that will include two-thirds of the individual weights. Close and accurate supervision of filler operation and of product characteristics are the key to accuracy. Control methods do not in themselves adjust the filler or indicate the reason for an out-of-control condition. The well-trained operator, well supervised, is on'y our recourse today.

Control of the physical properties of the product, particularly apparent density and flow characteristics, is a universal require-

ment for accuracy. Where measuring is done by the container itself, dimensional accuracy is essential. This is a problem for your supplier and you will find he can usually do better if you insist. Control of filler accuracy during operation itself can be improved by appropriate sampling methods. The value of improved accuracy can be determined from the cost of the product. A conflict between speed and accuracy often can be reconciled by equating the possible losses due to overweight with the possible gain due to reduced labor and overhead. Where product value is high, small gains in accuracy can be valuable.

To judge the capacity performance of a filler, use the calculated efficiency of the machine before attempting to judge the performance of the filler itself. Calculate an efficiency for the entire line by dividing the actual production by speed per minute multiplied by 480 min. per 8-hr. shift. If normal output is not 90% of theoretical, you have a job on your hands. If it is not 95%, you have no reason to be complacent. The best way to find out where capacity is being lost is to use a high stool and a stop watch.

3. Control your product and exert every effort to eliminate unscheduled maintenance. Eliminate oversize pieces of material from the product and use uniform containers to avoid smash-ups. Establish and properly administer standards for timing and wear of parts to reduce unscheduled maintenance. When breakdowns do occur, there is no substitute for competent maintenance personnel. Control change-overs so that excessive time is not consumed by the change itself and by final adjustments made after production has supposedly been resumed. Proper storage of change parts is essential and color coding is frequently advantageous.

Visual observation of equipment and container adjustment is sufficient to detect faults at machine speeds of 60 cycles per minute or less. At speeds of more than 350 a minute, the stroblite is effective. In the middle area, into which most packaging equipment is progressing, visual observation is more difficult. Some are using motion pictures; some, test runs of carefully selected containers. After capacity indexes and accuracy standards have been established, efficiency is above 90% and the desired accuracy has been achieved, then speed may be increased. This way of increasing capacity should not be resorted to until accurate, efficient operation has been established. Obtaining optimum performance from filling equipment is an operating problem that requires the cooperation of management, engineering and purchasing. There are no short cuts.

A summary of the Question-and-Answer session that followed appears below:

QUESTION: When evaporation takes place in a whiskey-filling operation, is there a resultant loss of proof?

ANSWER: There is known to be some proof loss involved, but the amount of loss is very difficult to measure accurately.

QUESTION: What over-all line loss of glass containers may be expected when the container is of the returnable type?

ANSWER: A loss over ½ of 1% would be considered excessive.

QUESTION: What can be considered a normal deviation in dimensional size for containers used on automatic filling equipment?

ANSWER: No exact answer can be given; this would depend upon the individual case and type of filling machine involved.

QUESTION: Should a machinery manufacturer's representative stay on a new installation at no expense until the machine has reached its stated capacity of operation?

ANSWER: Not necessarily. If you have a good machinery man in your own plant, this should not be necessary.

QUESTION: What weight tolerance should a filler maintain on a package in the 1- to 3-lb. range, operating at 60 packages per minute?

ANSWER: We do not have specific information on this weight range. On a typical 12-oz. package operating at 70 per minute, we consider it satisfactory if we can maintain a range of ⅛ oz. under and ¼ oz. over.

QUESTION: How can we compensate for differences in viscosity in lubricating oil from SAE 10 to SAE 60?

ANSWER: If the viscosity increases, it may be necessary to increase the size of the filling tubes or step up the vacuum.

QUESTION: Do you believe that all packaging operations should be above 90% in efficiency?

ANSWER: Yes. A close history of machine maintenance can be most helpful in attaining this goal.

QUESTION: Why don't equipment manufacturers use some of the ingenious improvements developed by users of their equipment?

ANSWER: Most of such gadgets are devised for a particular product and installation and would not be desirable as standard equipment. Such specialized attachments are up to the user of the equipment rather than the manufacturer.

QUESTION: What percentage of net-weight deviation may be expected in powder filling?

ANSWER: For small packages, accuracy of less than 1% should be possible, depending on such factors as type of product and whether the container is of the rigid or flexible type. On packeting, this figure may range as high as 5%.

QUESTION: Please elaborate on the use of statistical methods to determine when a filler needs adjusting.

ANSWER: First establish limits within which the filler will normally vary. If the variations on the production line exceed the average variations of a small sample, then the filler may require adjustment. However, bear in mind that statistical quality control is not a foolproof method—only a useful tool. Proper education of machine operators is a very important factor.

QUESTION: What percentage of cellophane waste or spoilage is allowable on a fully automatic operation?

ANSWER: This would vary with the particular type of operation involved. On a semi-automatic installation, the figure probably should not exceed 2%. However, in an operation where a bag is being made and filled simultaneously, tear loss may run as high as 5%.

QUESTION: What is considered an allowable percentage of faulty folding cartons as experienced from your suppliers?

ANSWER: This figure has run as high as 5 to 10%, depending upon the definition of "faulty." In some instances, entire shipments have arrived in a warped condition. When necessary, a runnability test can be conducted on a sample number of cartons, following arrival of a shipment. Close examination of a damaged carton may also be helpful. The packaging equipment should not always be blamed for down time; intensive studies have proved that it may often be caused by such factors as waiting for personnel to return to machines, paper changes, inability to get a maintenance man, etc., rather than by actual machine difficulties.

QUESTION: What method of checking is used to determine whether a container is underfilled or overfilled?

ANSWER: The usual basis is weight. The number of containers checked varies with different machines and products. On some liquids we need to check only four times daily, due to the extreme accuracy of piston-type fillers used. On the other hand, some types of fill may be checked as often as every two minutes on some high-speed equipment.

QUESTION: What are Government requirements on standard of fill?

ANSWER: Good commercial practice is the usual criterion; exact standards are not frequently publicized. However, fill should be regulated as closely as possible and in no case should containers be underfilled. Too frequent or too extensive overfilling can also lead to serious difficulties. For example, the distilling industry in 1952 paid a total federal tax based on 651,517,732 quarts of product. This tax figures at the rate of 7.42 cents for every ounce of product. If there had been an average overfill of 1/10 oz. on the 1952 output, the industry would have paid $10,047,655.89 in extra taxes.

QUESTION: How can the density of product as fed to the filling equipment be controlled?

ANSWER: One method is to use special feeding mechanisms, such as a vibrating element, to provide a uniform flow. In some instances a worm arrangement can be used. On volumetric filling equipment, one of the best methods is to maintain a good uniform head of material over the filler. The design of the hopper is also important; let the supplier of the equipment have a sample of the material so it may be equipped with a hopper of proper design. If the product is not uniform and is subject to constant change, blending of material before feeding it to the filler may help. Segregation of particles which would interfere with uniform filling must be watched.

QUESTION: What is normal speed and accuracy for an auger-type filler?

ANSWER: You should get good accuracy up to 35 or more cycles per minute on this type of equipment, depending somewhat on the weight of the product.

QUESTION: Are filling-equipment manufacturers sufficiently aware of some of the cleaning and change-over problems associated with this type of equipment?

ANSWER: These are some of the points which should be watched when buying filling equipment.

QUESTION: Does the use of electric-eye registration control help to reduce losses due to breakage of cellophane, etc?

ANSWER: This equipment does not increase material losses and in some cases helps to reduce them.

QUESTION: How can the filler be adjusted to compensate for variations in bottles?

ANSWER: One way to cope with this problem is to watch the bottles themselves carefully. Check the mold numbers for any bottles which consistently vary from the average. When such bottles are being run, losses may run high unless the machine is adjusted.

QUESTION: Are over-all losses of 20% on folding cartons running at 165 boxes per minute to be expected?

ANSWER: Yes, depending partly upon the set-up—whether one machine or several are involved.

QUESTION: How can the packager cope with the problem of oily, sticky materials that accumulate in feeding equipment?

ANSWER: A unit made by Pneumatic Scale keeps a constant head of products high in fat content to prevent this tendency. Products high in fat content may also be filled on tubular-type fillers which rotate. The idea is to keep the product constantly in motion so that it can't start to build up in the equipment. Keeping such products cool when feeding them to the weighing and filling equipment will also help.

QUESTION: Foaming is frequently a serious problem when filling bottles at rates of 100 to 120 per minute. How can this be overcome?

ANSWER: This may be due to the fact that the vacuum is too high. Increasing the diameter of the filler tube will usually help; reducing speed of operation is another way to overcome foaming. Even a difference of only one or two bottles per minute will often eliminate the problem. Proper selection of the bottle design also may help to eliminate this difficulty.

TUESDAY MORNING (Concurrent Session)

Chairman, A. DOUGLAS MURPHY, *Packaging Coordinator, Standard Oil Co. (N. J.), New York; assisted by* HENRY M. WOGISCH, *Head Purchasing Agent, L. Sonneborn Sons, Inc., New York.*

Automatic Processing of Orders for Packaged Products—GRANT S. JOHNSON, *Supervisor, Planning and Production, Package Div., Richmond Refinery, Standard Oil Co. of California, Richmond, Calif.* Automatic processing of orders for packaged products has enabled Standard Oil Co. of California's Richmond Refinery to improve inventory control, make better use of time and labor, improve accounting records and reduce total inventory investment, Mr. Johnson said.

Service stations now can adjust their inventories with reliance on a guaranteed shipping schedule. Order "cuts" and rush and less-than-carload-lot shipments have been reduced. Because of the availability of current, complete information on which to base realistic planning and scheduling, the refinery package division has been able to use labor more effectively. Line supervision is freed of much of its former manual record keeping. The necessity for a complete review of every item in the process of developing the automatic system focused attention on many items formerly buried in manual records. The necessary training of personnel improved their general proficiency. The tabulating system also has proved adaptable and flexible for analytical as well as operating purposes.

The adoption of mechanical order processing came as part of an over-all program designed to reduce the scheduled processing time for handling package orders, consolidate all package division planning and scheduling activities, improve inventory controls and reduce operating costs by providing a completely integrated procedure for handling orders. To reduce order-processing time a preprinted order form was prepared, listing all the principal items normally ordered in the product line with the respective authorized package combinations clearly indicated. Quantity of orders received is regulated by "cycle ordering," wherein specified stations order on designated days and frequencies. A centralized planning and scheduling activity was established within each refinery package division to assure that all packaging elements would be available when needed. Tabulating-card equipment was obtained for order processing and refinery warehouse-stock layouts were designed to provide easy accessibility and high turnover rate.

Order forms received at the refinery are verified, scheduled, assigned invoice numbers and passed to the tabulating section, which translates them into decks of punched cards from which filling schedules, inventory reports and filling documents can be prepared mechanically. Cards representing all orders are sorted mechanically by drums, source, type of container and type of product and are listed on a typed schedule in eight copies for the drum-filling sections.

For orders received on Monday, Mr. Johnson said, this schedule is in the hands of the drum-filling sections by 10 a.m. Tuesday. Fillings are completed Wednesday for shipment Thursday. Production is recorded directly on the sheet, which thus serves the dual purpose of a directive and a record of performance.

Replenishment of warehouse stocks is handled separately, though closely coordinated with order-processing methods. An inventory situation on filled stocks is processed daily, with items arranged by product and appropriate package sizes of each product. This alignment permits ready analysis of any product in all its package sizes to effect economical batch production and/or filling runs.

All these data, together with the schedules and controls required for the balance of the total packaging operation, are handled with a tabulating section of six persons.

Accurate Writing of Specifications—ARTHUR R. SCHETTEL, *Manager of Packaging Standards Dept., E. R. Squibb & Sons, New Brunswick, N. J.* Accurate specifications are a must in any well-run business, Mr. Schettel said. Accurate descriptions of material to be purchased must be shown in order to procure material of reasonable consistency for standard production. The writing of package specifications calls for infinitely close attention to detail, since changes cannot be made on any item until all the other items affected by the change can be checked and explored with a view toward complete runout without danger of obsolescence.

Specification by blueprint or dimension sheet is advisable in the purchase of tools, fixtures and container materials to be manufactured or fashioned to meet special requirements. Blueprints provide a safe and easy method of checking against specifications when articles are received and inspected.

Specification by chemical analysis or physical characteristics should be used rarely. Ordinarily the vendor, if he knows the use for which the goods are intended, is in a better position to determine proper materials and methods of manufacture than

the buyer. This type of specification sometimes requires inspection at the vendor's plant, which is normally expensive. It should be used only in cases of very particular and special requirements.

Specification by brand or trade name puts the buyer in complete dependence on the vendor's reputation for quality. It may be used in cases where branded products have been found to be superior to all others for the purposes intended and the formula of their composition is secret or unknown. It also may be used for standard products used in unimportant processes or quantities when the extent of use does not justify the expense of investigation or detailed specifications. The purchasing department should have at least two and preferably more approved brands.

Identification with standard specifications already published, accepted by the trade generally, and known to the vendor is a most satisfactory form of specification, according to Mr. Schettel, provided such a standard exists to meet the purchaser's requirements and can be accepted without undue expense.

Description of purpose and/or use specification is an admirable form if the vendor is dependable and will accept such a specification. The least difficult form of specification to prepare, it is recommended especially in the purchase of machines or tools about which the purchaser has no particular knowledge.

Specification by sample is not recommended except in cases where no other type of specification is possible. Samples are subject to physical change and their use as standards is often a cause of dispute.

Where method of manufacture and detail of material are specified, specifications should be as simple as is consistent with exactness, identified if possible with some brand or specification already on the market, capable of being checked, reasonable in tolerances, capable of being met by several vendors, clear and flexible.

When commodities are covered by commercial standards, the purchaser's task is made much easier. It is necessary only to specify desired grade according to the standard and the seller may guarantee conformance. Frequently provision is made for a certifying label as an assurance to open-market buyers. These labels normally state names of guarantee, commodity and grade covered, name and number of the commercial standard and a definite, concise guaranty of conformance to all requirements.

All specifications must be reasonably checked. Although inspection is not a function of the purchasing or package-development department, additional copies of the specifications should be given to the quality-control department for comparison with incoming shipments.

Reduction of Product Damage in Shipping—WARREN R. WHITE, *Container Engineer, Union Pacific Railroad, Omaha, Neb.* Loss and damage claims cost the railroads of the United States and Canada an estimated $107 million in 1952, Mr. White said. Although this figure is lower than the postwar high of $135 million, it is sufficiently large to point out the seriousness of the loss and damage problem. Unlike an expenditure for goods or services, which would represent the creation of national wealth, this represents an economic loss.

Partly responsible for this heavy damage toll are changes in customs and practices. Cars are loaded more heavily today and are of greater capacity. Freight trains are longer and travel longer distances at higher speeds and yard operations are faster.

Merchandise and containers are less sturdy than they formerly were. No one expects, Mr. White pointed out, that industry is going to give up fiberboard shipping cases and go back to the solid lumber boxes. Our national resources would not be adequate, for one thing. Yet it would be foolish to say that they offer as much protection from a gouging pipe or other freight in a mixed load of less-than-carload freight.

Since World War II industry has awakened to the importance of proper packaging and made constructive efforts to see that containers provide more efficient protection. The reduced claim payouts indicate that those efforts have been effective. With this example before them, shippers and carriers alike are now concentrating on proper carloading.

All too often the condition of a jumbled-up load at destination is blamed on rough handling. Without denying that rough handling exists and is responsible for a certain amount of damage, it is blamed for more than its share. A recent comprehensive survey of shipping damage made by the railroads of the United States and the Fibre Box Assn. attributed 27% of the causes of claims to conditions under the railroads' control, 34.4% to conditions under the shipper's control and 38.6% to all other causes. Of the damage under the control of the shipper, 18.6% was due to poor arrangement of load, 15.8% to loose loading.

For the past several years, Mr. White reported, Union Pacific's loss and damage-prevention organization has been working with shippers of canned goods to improve their loading methods. Canned goods, of course, provide a good example in this instance, because damage claims were frequent. One of the changes was the substitution of "bonded-block" or "brick-wall" loading of cases (criss-crossed to form a tiered stack) for the old straight stacking, which previously was the method used almost universally. Average claim per claim car in 1950 was $13.13; the following year it dropped to $9.78 and a further reduction is in prospect for 1952. It can be done. What applies to canned goods is equally applicable to most case goods of uniform size.

Shippers can do much to keep their goods from damage in transit if they will use containers that are designed to withstand the weight of the mass behind them in case of impact; if they will provide for proper storage of paper and paperboard containers to avoid brittleness resulting from drying and if they will report to the carrier the need for special cleaning of cars that have carried bulk salt, chemicals, oil, grease, asphalt, batteries and other commodities that might contaminate the car floor. Ordinary cleaning may not suffice. Corrosives, for example, may sift behind linings.

Cars stopped for partial unloading in transit contribute more than their share to damage. Some shippers bulkhead each stop portion separately, eliminating error in the identity of the several shipments and usually making it unnecessary to re-arrange the load for subsequent destinations. In most cases the extra cost is no greater than the allowance made to have the job done improperly.

The railroads are improving their facilities and making other efforts to reduce damage, Mr. White said.

Union Pacific has been carrying out an educational campaign among its employees to make them damage-reduction-minded. All employees have viewed sound-color motion pictures dealing with handling of less-than-carload-lot merchandise and with careful car handling and yard operations. Loss and damage-prevention subjects are discussed at periodic employee meetings. Posters are kept on bulletin boards and a magazine dealing with prevention topics is distributed bi-monthly. Union Pacific built an exhibition box car with a Plexiglas side wall to illustrate the effect of rough handling on lading and showed it with a simulated load to switch crews, train crews and yard forces.

Shippers and receivers can rest assured that the railroads of the United States are making an honest effort. The railroads appreciate the cooperation and help of the shippers and receivers and hope that they, too, will continue to work on the problem as they have been doing since the war. With that kind of mutual assistance, victory is assured.

TUESDAY MORNING **(Concurrent Session)**

Chairman, CHARLES W. KAUFMAN, *Vice President, Research, Kraft Foods Co., Chicago, assisted by* RALPH H. THOMAS, *Package Engineer, Bristol-Myers Co., Hillside, N. J.*

New Concepts for Printing Production—J. HOMER WINKLER, *Technical Advisor, Battelle Memorial Institute, Columbus, Ohio.* The packaging industry is experiencing a new vitality and starting a most progressive period, said Mr. Winkler.

Within the past 10 years an impressive number of new developments have been introduced in the printing operations of package production. The adoption of technical research as a means to solve production problems is probably the most significant development in the printing industries since World War II. Ten years ago less than 0.07% was spent on graphic arts research.

An increasing number of supply companies, equipment manufacturers and graphic arts producers have instituted research divisions or engineering departments or both, he reported. Today there are few large companies in the printing industries without technically trained personnel in their production and development departments.

Even greater improvements may be expected in the next 10 years. The number of technically trained men entering the graphic arts field is impressive. Their potential contributions are exciting to consider.

As examples of recent developments in graphic arts, Mr. Winkler cited the following:

The invention of xerography for graphic reproduction and xeroprinting for printing production. (Xerography was defined as a direct dry positive method of reproducing anything written, typed or drawn by a static electric charge.)

Utilization of in-line equipment in printing production.

New phototypesetting machines for obtaining type copy without use of type metal.

Premake-ready aids, including a precision lock-up and register table for accurately locking up forms before sending them to press, a form trolley for transporting press forms and a cast type-metal base for mounting plates.

New methods in photo-engraving, including the Scan-A-Graver, use of magnesium as a photo-engraving metal, color scanners for producing color-separated transparencies from full-color copy and a new photoresist that may replace the hot and cold tops.

Improvements in electrotyping, among them increased application of the PPR plastic molding, a centrifugal-casting process for backing curved electrotype shells, unit casting of electrotype shells, a new finishing machine for flat electrotypes, use of treated electrotypes with make-ready incorporated in their surfaces, and reductions in weight and increases in mechanical strength of electrotypes.

Development of flexographic printing from molded-rubber plates.

Application of gravure printing processes to specialty stocks, labels, wrappers and boxboard.

Improvement of offset-lithography quality through use of bimetallic plates, presensitized paper, metal-foil plates and web-fed equipment.

Renewed interest in dry offset and use of cylinder sleeves for continuous-pattern printing.

Development of screen-process printing for more accurate color reproduction.

Mr. Winkler elaborated on the possibilities of using two or more printing processes on one carton or label by means of in-line equipment so that the advantages of both gravure printing and letterpress and even offset might be achieved for one job, depending on the specific requirements.

He also discussed proposed methods of laminating preprinted sheets to carton board which would permit the use of fine color printing on the surface sheet in combination with relatively inexpensive board, thereby effecting considerable savings over present methods of color printing on board which demands the use of high-quality board.

Characteristics and Applications of New Plastic Films—CHARLES M. WOODCOCK, *Project Leader, Packaging Research Section, Central Laboratories, General Foods Corp., Hoboken, N. J.* Coated or laminated combinations of plastic films offer tailor-made sheets for practically any packaging job.

The basic types of packaging film—cellophane, vinyl films, Pliofilm, polyethylene and saran—all have valuable properties, but each has drawbacks that may make it difficult to handle or deficient in some functional property. Many of these drawbacks can be minimized by combinations of two or more films.

The frozen-orange-juice envelope introduced a year or so ago is an example. This envelope needed to be moisture resistant, strong, durable at low temperatures, oxygen resistant, easily and attractively printed, and adaptable to high-speed automatic operation. No single film met all these requirements, but a combination of cellophane and polyethylene was developed with the oxygen resistance and printability of cellophane and the strength, low-temperature durability and weld-type heat seal of polyethylene.

Use of combinations of film with a paper base has become so extensive that it constitutes a major trend throughout the packaging industry. Such usage enables packagers to take advantage of the properties of the films without having to replace existing packaging equipment, much of which is not capable of handling film. In many cases machinery to perform packaging operations with films has not yet been developed or is too new to be generally accepted. Because of their paper surface, paper-plastic sheets will operate on most types of conventional wrapping, forming and sealing equipment. They also make it unnecessary to make radical changes in the external appearance and form of old, established packages.

Printing has been a major problem with thermoplastic films, according to Mr. Woodcock, because of the chemical inertness of the films, the fact that few inks will adhere to them well, and their softness and stretch, which cause register difficulties on the presses. However, he reported, considerable progress has been made in improving the adhesion of inks to films by using processes that involve etching of the film before printing, coating the surface before printing or coating the final printed sheet.

In improving the visual quality of the printing, things have moved more slowly. Some of the converters are turning out fairly presentable work, but I have yet to see a printed plastic film that I would care to put up against a good-quality cellophane print. Straight line printing is all that is available to the best of my knowledge. I don't believe anyone has been successful with tone work as yet.

Today's boom-baby in the plastics field is polyethylene, which has been rapidly accepted by the industry. Polyethylene is a remarkable material and it threatens to precipitate a real revolution in the approach of the packaging industry to many of its problems. However, it should not be approached as the panacea of all the aches and pains of the packaging business. It will do a great many things and do them well—better, perhaps, than any other material. Some things it won't do any better than many of its competitors and others it won't do at all. If we all keep our feet on the ground and look before we leap, polyethylene will have a long and happy packaging career.

Among polyethylene's weaknesses is its sensitivity to some types of grease, deficiency in moisture resistance and cloudy appearance. The gas permeability of polyethylene was also cited as an example of its unsuitability in certain instances. The polyethylene bottle, for instance, is not suitable for the packaging of perfumes where it is essential to give lasting protection to fragrances. Strong points of some of the other films include cellophane's suitability for printing; cellulose acetate's breathability, useful in pre-packaging of fruits and vegetables; the strong heat seals and over-all physical strength of vinyl films; the toughness and stretchability of Pliofilm; and saran's extremely high resistance to moisture transmission.

Check-List of Packaging Adhesives and Their Uses—HAROLD E. SMITH, *Chemist, Research Department, Hiram Walker & Sons, Inc., Peoria, Ill.* Industry's knowledge of the properties of adhesives is much less than it should be for today's high-speed packaging, according to Mr. Smith.

The subject of adhesive testing has hardly been scratched. Base materials for adhesive manufacture are natural products and subject to wide variation. The research needed for a complete investigation is out of proportion with that required

in other fields and therefore difficult to justify. Performance testing is not always possible or desirable and there are no standardized testing procedures.

Shelf life can be evaluated by placing dried glue films (on glass) in chambers containing different atmospheres and correlating the response of the glue films to storage life under varying conditions. This method is suited only to labeling on glass. Predicting machinability from viscosity, solids content and other characteristics has not been too successful and has made it necessary in many cases to run plant tests.

The supplier's representative should be present when a plant test is being run on an adhesive so that he will be in a position to take remedial action. A portion of the test production should be held in storage to confirm the shelf-life correlation.

The extent of control testing depends on what the packager deems significant for his operations. A visual inspection should be the minimum. Specifications for adhesives are as controversial a subject as any in the field. Users should keep them practical by basing them on performance. Specifications based on physical and chemical property data will be applicable only for a given product.

Adhesives must be handled properly, Mr. Smith warned. Liquid glues are perishable. Purchasing must be regulated by usage and inventory.

Ready-to-use adhesives are gaining in favor and dilution is coming to be regarded as just another place where something can go wrong. When adhesives are diluted, they should be delivered to the packaging room in small quantities only as needed. Care must be taken not to mix incompatible glues.

Alkaline-modified-starch products have largely replaced dextrins for labeling operations. The former adhere well to glass, are not sensitive to wide extremes of atmospheric conditions, are moisture resistant though not waterproof, are not attractive to insects and vermin, and are not easily diluted.

Experience with animal glues for labeling has been limited, but so far they have not shown up any better than the average dextrin. Casein labeling adhesives, because they are relatively unaffected by immersion in cold water, are widely used by some types of bottlers.

Resins currently are used only as a last resort for labeling with plastic films and metal foils, which cannot be bonded by the other adhesives. Resin films are waterproof and durable, but are costly, less adaptable to automatic machines and present solvent hazards and special cleaning problems.

Thermoplastic adhesives are a relatively new and somewhat revolutionary development. Their bond is extremely durable—in fact, too durable for a packager with a reconditioning problem. They are, however, more costly than liquid adhesives.

Low-cost dextrin adhesives are satisfactory for ordinary requirements in carton sealing, Mr. Smith said. To insure that the adhesive will set in time, drying devices are sometimes installed. If water resistance is required, the packager must resort to casein or resin-base adhesives. A dry-flake dextrin adhesive, which is mixed with water just before use, has become available within the last few years. Large-scale carton-making and sealing operations can justify a special mixing machine for the dry-flake dextrin.

TUESDAY AFTERNOON

Producing the Right Folding Box for Your Product—*Chairman,* STANLEY W. MACKENZIE, *Director of Purchases, United States Rubber Co., New York; assisted by* F. RICHARD HOLTZ, *Manager, Packaging Design Service, Eastman Kodak Co., Rochester, N. Y.*

Selling Considerations in Determining Proper Shape of Box—EARL A. MILLER, *Vice President, Jewel Tea Co., Inc., Chicago.* Packaging for consumer sales will continue to change in the next few years even more than it has in the past few. In the never-ending job of finding the right package to suit everyone, don't be satisfied with what the artist shows on the drawing board, but take it out into the retailer's store and experience along with that new package all the jobs that it must do. Take it into the kitchen and pantry. Not only must you fit the retailer's shelves and know that your package is easy to put on the shelving to eliminate expense, but you must also think of the consumer putting it over the kitchen sink or wherever she happens to have room to store it. It must be easily handled.

From the consumer's point of view, small packages are more convenient in many cases, Mr. Miller pointed out. If you find one of your packages so large or heavy that the average woman must use two hands to handle it, consider a new package. Also consider how she will store the package or its contents and how long the product will keep.

Soft colors seem to be most popular at the moment, Mr. Miller reported. In choosing color, the packager also should take into account contrast with the competitor's package, product or package identity and the background of the retailer's shelves. Maintain a contrast of colors on your labels or packages so that they are readable. That's where both the retailer and the consumer will criticize most—if the information that you put on a package isn't easily readable.

And make that information accurate, he insisted. At all times be 100% honest with what you say on your package.

From the retailer's point of view, shelf appearance and handling are important, since both are expense items to him. In a recent survey Jewel Tea Co. found that the cost of stocking its shelves with staple or dry groceries was 40% of the cost of handling the items and price marking was another 20%.

In these two items alone, 60% of the cost of handling products is affected by the package or shipping container. Perhaps you can find new efficiencies in these two areas that are making it necessary for the retailer to widen the spread between wholesale and retail costs.

Today's consumer package will still be improved. If it costs more money, it must be made more convenient or more valuable to the consumer. The retailer can help in finding economies to narrow the margin between wholesale and retail costs. But the product is yours and if you do not act, not only may somebody else's product become more valuable, but a different product may replace yours entirely, without necessarily affecting the retailer's sales or profit.

Under the sponsorship of the U. S. Department of Commerce, a group representing food chains, wholesale grocers, manufacturers and others has been appointed to work on better packaging of grocery products, Mr. Miller reported. Subcommittees will give attention to such packaging problems as square packages, which are hard to handle; bags, which are hard to palletize; items which are subject to excessive breakage and loss; oversized packages; weak containers; and poorly labeled packages.

Individually many of us can go much further in improving packaging by merely going to the consumer and then being honest with ourselves in deciding what she really wants.

Selecting the Right Material for the Job—DOUGLAS KIRK, *Mechanical Research Department, The Quaker Oats Co., Akron, Ohio.* There is nothing static about materials for folding boxes. Materials are being improved more rapidly than many packagers appreciate and these improvements often mean new or additional mechanical techniques. Therefore, manufacturers should keep material requirements flexible so that they can take advantage of new developments.

Many compromises must be made in selecting the correct material for a package, since there is practically no perfect package. As major points to consider in selecting box material, he suggested the following:

1. The consumer purchase price of the packaged product. If the product sells for a nickel or a dime, selection of materials for the package is thereby restricted. A box for an expensive Christmas gift is far removed from a box for breakfast cereal or a package of tacks.

2. The unit size of the product. A box of pencil lead or razor

blades may give more leeway in material selection than a 5-lb. box of dog food or patching plaster or grass seed. The product's density also must be considered, since it affects the weight of the package material required.

3. The distribution channel. Folding boxes used for "store pick-up items" present more problems than boxes for products sold before delivery. Supermarket or self-service drug-store items are not comparable to small tools or automobile parts sold to a manufacturer. Problems involved in boxing consumer durable or soft goods differ from those involved in packing liquid milk in a paperboard container.

4. The end use of the package or product. A package of prepared cake mix or frozen foods is a single-service box that differs from a box of facial tissues, soap powder or detergent that receives repeated use. Some boxes need to be functional, some need to be silent salesmen and some must be both.

In selecting the correct material to box a product, the manufacturer also must keep in mind ease of opening the box or "depackaging," Mr. Kirk pointed out. If the product requires a loose interliner or bag, for example, it does not lend itself to a trick pouring spout.

The packager must compromise among the varied characteristics of the materials available in planning the box best suited to his purpose. He also must reach a balance between the strength of the unit boxes and the outer shipping case for transit protection. Both the shape and the contents of the box are relevant factors. It is senseless to overprotect packages. The real test is an actual shipping test.

Comprehensive information on box materials is sometimes difficult to obtain. No manuals are available because there are so many different forms of packages. To get the answers on materials, go to the research and development departments of suppliers, to independent laboratories, to consultants and to others who package products.

The Printing of Folding Boxes—WILLIAM D. HALL, *Technical Director, Folding Paper Box Assn. of America, Chicago.* A folding carton can be as attractive as the finest process-color advertisement in a "slick" paper magazine. Folding cartons have gained added importance with the trend toward open display, self service and impulse buying. In addition to product protection, ease of handling and convenience in use, cartons now provide brand identification and an extra measure of sales appeal.

Each of the four basic reproduction processes—relief or letterpress, planographic or offset lithography, intaglio or gravure, and stencil or silk screen—has its advantages and its limitations in carton production.

Letterpress-printed cartons are used for almost every conceivable product with an endless range of sizes and styles. The oldest and most popular printing method, letterpress is known for its sharpness and uniformity, particularly in multicolor work. Process printing, a complex technique of letterpress color printing involving halftones produced by color-separation photography, gives the finished carton an amazing likeness to the original artwork or design.

Flexographic printing, formerly known as aniline printing, is a variation of the basic letterpress process being widely used in the production of transparent film products. It now is finding a place in the carton field and is being used on bottle carriers, garment boxes, egg cartons and candy and popcorn packages. Flexographic printing is done on rotary equipment with hand-cut or molded-rubber plates and fast-drying, fluid-type inks.

Offset lithography is producing folding cartons with that plus factor of pictorial realism so very desirable at the point of purchase. It can be used to reproduce anything that can be photographed.

The full importance in the folding-carton industry of gravure, youngest of established printing forms, is still being decided, Mr. Hall said. It has recently been combined with rotary die cutting in one machine operation for long runs of folding cartons, an in-line production process made possible by the rapid drying of gravure inks. Within the last few years some folding-carton manufacturers have equipped themselves to do tonnage business in the printing of soap and other large-volume cartons in one or more colors by the web-fed gravure process. Sheet-fed gravure also is finding a place for itself in comparatively short runs and for printing on foil-laminated stock.

The stencil process is finding increasing application in carton making. Especially suited for short runs, test jobs and special promotions, it will gain in popularity, he predicted.

Before a printing method can be selected, the cutting and creasing operation—the keystone in the manufacture of folding cartons—must be planned carefully. All other operations must be adjusted to its requirements.

In placing an order for cartons, always give the supplier complete specifications. Among the facts that must be included in such specifications are what is to be packaged; physical details of the product, such as weight, size, and physical state; purpose of the package, whether it is for protection or sales stimulation; how the carton will be filled; how it will be packaged for shipment; quantity desired; delivery date; dimensions, measured from center of score line to center of score line; style; protective features; design; kind of paperboard; quality level and special treatment.

Specifications for Boxes to Run on High-Speed Equipment—WILFORD L. ROMMEY, *Technical Director of Packaging, The Procter & Gamble Co., Cincinnati.* Packaging-material specifications must be increasingly precise and uniform for modern high-speed production lines. Just as the moving parts of an automobile must be made to closer tolerances as speeds increase, so must all the elements of material and workmanship that go to make up a carton be controlled within closer and closer limits. It takes modern, up-to-date equipment and good workmanship to produce a satisfactory carton at high speed.

To insure satisfactory cartons, establish complete understanding and agreement on specifications between supplier and user. Keep standards high; insist that cartons be made uniformly and with precision. Use performance specifications whenever possible. And maintain quality with a quality-control follow-up.

Three major properties must be built into a piece of folding boxboard to make it an acceptable base for the manufacture of a high-speed carton. They are proper and uniform absorption qualities, rigidity and good bending qualities.

The first is probably the most important, Mr. Rommey said. The success of the gluing operation depends on it. As far as efficient machine operation is concerned, it is almost better to have the board uniformly out of limits than to have a small amount vary widely from a large percentage within the limits. At high speeds a machine cannot adjust itself to wide variations.

Determine the absorption requirement that suits the operation, then spell out a test to meet your needs. Procter & Gamble uses water-drop and ink-absorption tests correlated with the type of adhesive and its type of high-speed operation.

Rigidity is important in feeding. When cartons are being taken away at a rate of four a second or faster, a raggy or flimsy carton gums things up in about the same way as the slow thinker on a football team who can't keep the plays straight. Procter & Gamble has not found it necessary to pin rigidity down to a numerical value because the feel test is accurate within the limits needed for good operation.

Test the cartonboard's bending qualities to get insight into the quality of stocks and the skill with which they were used, he suggested. A good bender does not insure you of a good carton, but you can be pretty sure that you can't make a good carton out of a poor bender.

Fabrication operations are so vital that it is advisable to pin down and spell out exactly what is needed. Once it was satisfactory to ask a carton manufacturer to match a sample. Now it is essential to blueprint the carton in every detail, including score prebreaking specification, details of size, ink bleed allowances, details of opening device, grain direction and relative position of printed and unprinted panels.

Side seams should be well glued; one of the most aggravating

interferences with efficient high-speed machine operation is lightly glued side seams and cartons glued out of square. Flaps should be cleanly cut and free from scrap if pile-ups are to be avoided. If cartons do not line up evenly on the feed rack, feeding difficulty can be expected; to prevent unevenness, roll the scores in proper relation to the glue-lap thickness. Proper bundling is necessary to avoid warping. Inks must resist heat and rub, which can cause gumming up of belts and other parts.

WEDNESDAY MORNING (Concurrent Session)

Chairman, M. CRAWFORD POLLOCK, *Vice President, C. A. Swanson & Sons, Omaha, Neb.; assisted by* LEROY A. PETERS, *Packaging Manager, H. P. Hood & Sons, Inc., Charlestown, Mass.*

Testing Consumer Acceptance of New Label Design—FLORIAN C. MAJORACK, *Manager, Product Development Department, H. J. Heinz Co., Pittsburgh, Pa.* World War II, said Mr. Majorack, mushroomed the self-service supermarket into a cloud as big and impressive as any Bikini produced. With self service here to stay, the package has a new role in this neutral sales arena. With the sales clerk gone, only the package label can explain the merits of the contents, pick the "X" variety from 150 varieties of three brands of competing baby foods and direct thoughts to weight, ingredients and suggested uses.

Because of this new importance given to labels, Heinz recently started a major program of label redesign, aimed at developing labels that would not only combine good color and design but, even more important, would express the character of the product and the reputation of its maker. The project required the coordinated effort of virtually all phases of the company's business. The first step was the formation of a committee or management team to establish design policies. The very top echelon of our executive personnel, from the president on down, laid the framework for the design program. This high degree of executive participation in the initial stages of the program was necessary because of the need for deciding fundamental issues regarding design elements that had been considered important for many years in the past.

After the policies had been established, specific product-line designs were worked out which complied with basic policy decisions and still satisfied artistic and design requirements. For questions on which there were unresolved conflicting opinions or about which the company had no basis for forming an opinion, consumer opinion was sounded out. Market reaction was determined by store tests and limited-area market tests.

For example, our original label included five trademarks or elements which had long identified the Heinz line of food products. These were the keystone-shaped border, the notation "Established 1869," the pickle, "57 varieties" and the name Heinz. In designing the new labels, it was decided that some of the elements would have to be eliminated. First to go was the "Established 1869," since it was felt that although this was important in the institutional sense, it did not provide a direct sales feature to the retail consumer. It was difficult to eliminate the symbolic pickle, which had been used for many years, but it had no direct relationship to other food items.

That left three principal elements—Heinz, 57 and the keystone—to be worked into a coordinated label. The label designer felt that the 57 should be paramount, while another group favored dominance of the Heinz name. A survey at this point brought out the fact that the name was better than the number for recognition value. The test was made on two products with 57 featured with a keystone background on one group and the Heinz name on the other group. On the basis of this test, it was decided to feature Heinz and make 57 a subordinate element of the design. The 57 now stands by itself and Heinz is placed on a curved line which permits it to fit better into the keystone border and aids recognition value. The proportions of the keystone were also carefully worked out with a view to its use in advertising, promotion, etc.

The next move consisted of adapting the label to various product groups. On the soup line, consumer panel tests were used to decide which of three background colors—red, blue or orange—would have the best sales appeal. Identical panels with the different background colors were used, presenting a single variable. Red emerged as the best of the three colors tested. In the baby-food line, we wished to include a baby illustration, but used a panel of mothers to help determine the type of illustration to be adopted—a sketch-like design having a distinctive appearance which could be identified with Heinz. Various other detailed problems of design were also worked out by the packaging group or through consumer panels.

Consumers can give only limited guidance in a label-design program. Questions cannot be fed into the consumer, electronic calculator style, with the hope of getting informative answers that will guarantee success. There are many subjective intangibles involved which complicate the interpretation of consumer tests. To be valid, consumer acceptance must be tested in the normal environment in which the package is sold. And this environment must be established with all foreseeable variables present and the results observed over a period of time. Opinions on individual detached elements, such as color, style of lettering or the like, may be resolved by offering paired alternates, but getting acceptance on an integrated design change necessitates a long-range evaluation of consumer reaction.

After the labels have been put into use, Heinz keeps tuned to consumer opinion through two groups in daily contact with the consumer—the regular sales force and a group of mother contact personnel who pay special attention to baby-food problems. Letters and phone calls from consumers provide quite candid opinions. These sources, plus a close scrutiny of sales records for comparable periods, will help evaluate a new label.

Packaging Problems in Redesigning a Product Line—LLOYD L. DUKE, *Manager, Package Design, Mead Johnson & Co., Evansville, Ill.* During the past three years, Mead Johnson has carried out a broad repackaging program. This program of standardization and improvement was begun early in 1950 by President L. D. Johnson, Sr. Responsibility for packaging was pinpointed so that visual improvements could be coordinated with the physical changes necessary for more efficient and complete automatic packaging.

The new line of packages offers an all-over design harmony which, it is hoped, will encourage retailers to group the Mead products and take advantage of the mass display effect thus created. Because of the standardization of the packages and the improved coordination between departments, larger quantities are now being ordered to cover a longer period and combination runs are being effectively made. The net result on some items is reduction in costs amounting to as much as 66⅔%.

Although much more than a new package design goes into establishing an upward sales trend, some indication of the success of the new design is given by the fact that sales of Mead Johnson products have increased since the new design went into effect. Sales representatives say they are proud to present to the medical profession the attractive packaging of their products. Compliments received have provided good sales openers.

Following is a brief outline of the procedure followed in the Mead repackaging program: (1) discussion of packaging problems relating to each product by sales, management, engineering, production and package design; (2) study of various solutions to problems and recommendations to management; (3) securing management approval and setting up schedules; (4) issue of authorizations by management, with copies sent to all departments concerned; (5) preparation by each department of the work for which it was responsible and forwarding of essential data to package design department; (6) assembling by package design department of all elements to achieve standardization with the rest of the line; (7) preparation of layouts, typography and finished art; (8) forwarding of finished art to suppliers, via the purchasing department; (9) proofreading; (10)

receipt by package design of samples of all production runs for checking and filing.

NOTE: The complete story of the Mead Johnson repackaging program appeared in the May, 1953, issue of MODERN PACKAGING, "Package Overhaul," p. 120.

Packaging Considerations in Converting to Self-Service—DATUS W. BERLIN, *Assistant General Manager, Gimbel Bros., New York.* Packaging is to mass distribution as automatic machines are to mass production. However, the self-service packaging of non-food products has lagged because during 10 years of a seller's market there has not been sufficient incentive to develop it more fully. Many of our older concepts are changing; look what has happened in a number of the trades and crafts, where modern production methods have been adopted. Now we are also knocking some of the mystery out of distribution. Conditions of selling have changed and our techniques of distribution must be modified to meet them.

Customers have been conditioned in supermarkets to new purchasing habits. Today's customers are pre-sold and wish to make their own fast selections. Most of them must buy on a hit-and-run basis. They are becoming impatient and frustrated by the old selling methods. Most salespeople don't have adequate time to sell and many of them lack the training or the inclination.

Department stores have traditionally been service organizations. But during the past 10 years, most of their operating costs have doubled, making it increasingly difficult to maintain customary services. With fewer salespeople, they have found it necessary to promote cash-and-carry business, skimp on wrapping and otherwise pare service costs wherever possible. New techniques of distribution are necessary in order to keep costs in line. Among the problems which we must face is the fact that a large percentage of the entire week's business is done on two days of the week and three hours of the day—the periods from 11:30 to 1:30 and 4:30 to 5:30.

Under present conditions it is difficult to maintain rapid turnover and a broad selection of items. Rigid stock control is imperative. Most stores are now sorting out the low-volume, marginal producers and weighing the problems of self-selection selling, based on minimum stocks and a 60-day turnover. Proper merchandise presentation and packaging are two of the most important and undeveloped phases of this type of selling.

In packaging for self-service selling of non-food items, one of the first considerations is to be competitive. The package must facilitate distribution, attract favorable attention, emphasize the brand name, incorporate serviceable materials and help to maintain minimum cost. The problems of the consumer must also be considered in the self-service package. We need greater turnover through the elimination of slow-moving items.

Self-service selling tends to reduce the amount of the average transaction. It is also likely to produce tighter stock control and more frequent re-orders. To fit into this program, packages must provide for convenient examination of contents, stacking and space conservation in the store. They must be easy to carry, emphasize the sales features of the product within, provide for related selling and be able to ride the delivery belt without damage. Even before department stores have adopted self-service selling, stores will welcome good self-service packages.

Under self-service selling, the only preference the retailer can give to a packaged item is that of display; the rest is up to the consumer. Thus the need for stronger product identification, use instructions and related information on the self-service package. The package must provide the greatest possible display potential and provide adequate information and instructions for the buyer. This minimizes the need for assistance from the sales clerk. A good self-service package may eliminate the need for additional wrapping and reduce the selling space required.

The package should provide maximum opportunity for examining and comparing competitive items and facilitate stock control. Where possible, as for a number of products selling at a standard price, the price should be included on the package when it reaches the retail outlet. Packaging should be in standard bulk quantities to cut down on handling and counting in the retail outlet. Related selling of other merchandise may be encouraged by a family design treatment.

In conclusion, a good job is not now being done in packaging for self-service merchandising of non-food items. Much improvement is still needed. Coordinated requirements and improved techniques will lead to wider adoption of self-service packaging in this field. The ultimate goal is maximum sales volume at minimum expense.

WEDNESDAY MORNING (Concurrent Session)

Chairman, PAUL O. VOGT, *Consultant—Packaging, Warehousing & Shipping, General Electric Co., Schenectady, N. Y.; assisted by* JOHN W. KRAUS, *Supervisor, Quality Control and Package Engineering, Thompson Products, Inc., Cleveland Ohio.*

Packaging of Odd-Shaped Parts—CARROLL W. EVANS, *Superintendent, Parts & Accessories Div., The Studebaker Corp., South Bend, Ind.* Odd-shaped parts need not always remain odd shaped, Mr. Evans said. Sometimes the product can be redesigned to eliminate the special packaging problem. Studebaker gas tanks for years had a long, integral, non-detachable, crooked spout which presented a never-ending problem in packaging. Finally the tanks were redesigned to include a detachable spout which is now shipped unassembled.

Some irregularly shaped items can be shipped unpackaged and others may be grouped and packed in a standard case without advance preparation. But some do demand special packaging and that packaging calls for an unusual amount of common sense, some imagination, actual packaging experience, understanding of materials-handling procedures and equipment, and good contacts with suppliers of packaging material.

The experienced packaging engineer will always come up with a design that is as simple and as low in cost as possible, no matter how odd the shape of the product. Studebaker attempts to make the product fit the package, the package fit the pallet and the pallet fit the method of transport.

Several general rules can help make packages as easy to handle as possible: Try to hold weight within the limits of 30 to 50 lbs., because even if an item is palletized, it usually has to be stacked on the pallet and unloaded from the pallet by hand. Packages that are too large or too small are hard to palletize effectively. Small packages may be handled in wire-bound pallet boxes. For maximum stability in stacking, the height of a package should be less than the width or the length. Perfect cubes are difficult to palletize. To utilize the maximum strength of the container, design the package so that the corrugation runs vertically when the package is stacked.

Parts and accessories distributed in volume from Studebaker factory warehouses often are advance packaged as an individual part or kit combination to protect precision and high-finish parts and items subject to handling damage, and to provide a logical merchandising package. Advance packaging also is used to provide minimum warehouse-stock quantities of high-volume items so that delivery may be speeded. Standard packs are established in quantities designed to reduce processing time to a minimum. Many specific methods are used for packaging odd-shaped products at Studebaker. A 30-year evolution in the handling of sheet and metal parts reveals that a constant challenge has been involved in the battle to reduce bulk and weight and achieve economy. Versatility in the use of methods and materials is highly essential.

For example, Studebaker packages high-precision-ground cam shafts in a three-piece, telescope, metal-end fibre can. The can is laminated with VCI paper, which affords excellent protection against rust. Excelsior pads give protection for large, bulky parts such as doors, which are then secured with four steel bands. In some cases ropes are used to secure padded parts such as fenders. Hoods are now packed with excelsior padding, held in place with barbed steel clips that eliminate the use of

rope. New rear fenders and certain front fenders, however, now use cartons instead of wrappings. Heavy-test board is specified to supply extra strength and thus avoid the need for inserts.

Re-use is an important consideration, for return shipment of the same or similar parts is often involved and the protection, padding and bracing must be the same as in the original shipment. Containers like the wirebound box used for transmissions are doing an excellent job because of their re-use advantages as well as the strength they provide for handling heavy parts. Studebaker obtains splendid performance from plywood boxes.

Parts that are lighter in weight and smaller in bulk are also receiving much individual attention. Some of the practical packages for these are latex-seal envelopes, padded shipping bags and polyethylene bags. The polyethylene bags, for example, are used extensively in packaging small parts.

When each packaging problem is viewed as separate and distinct, the packaging engineer is challenged to make use of the best type of pack for the particular item under study. If more than one method presents itself, cost usually decides.

Packaging of Fragile Items—R. Frank Weber, *General Supervisor, Materials Handling Research, Manufacturing Research Dept., International Harvester Co., Chicago.* Packaging is only part of a cycle that is tied into production, inspection, plant movement, storage, loading and shipping, and the packaging engineer's duties should be broad enough to encompass all these operations from the standpoint of product protection, Mr. Weber said. The packaging engineer should be considered on a staff level and his experience should be on a par with that of other top engineers in the organization. He should select his staff from the best men available and train them.

A good packing program should start at the top management level. A detailed plan of procedure should be worked out. If the original survey plan is sufficiently broad to cover all characteristics of a progressive packing program, the actual application in a plant operation will be comparatively simple.

Study also should be made of all handling methods related to the packing operations. Material flow in a packing operation sometimes means the success or failure of the system. Much can be done to improve layouts for straight-line operation; it is not uncommon to find that distance of travel of material to and from typical operations can be reduced one half to one third.

The program also should include an adequate packing cost-control system, with a staff man assigned to keep the control plan effective. If controls are to be maintained, the packing and handling supervisory force must be interested and enthusiastic. Each supervisor should be informed at least monthly of his cost accomplishments in maintaining his cost objectives.

At International Harvester, planning for over-all packaging programs is centralized in the materials-handling research section. New packing and materials-handling methods and facilities are developed in the materials-handling research laboratory and made available to all plant operations as soon as they have passed laboratory and field tests and requirements.

The laboratory staff, Mr. Weber said, work closely with materials-handling engineers and plant staffs in any development that concerns the latter groups and are available as consultants for all Harvester operations. They also maintain contacts with representatives of vendors and suppliers and with outside industries and laboratories.

Research and plant personnel regularly visit Harvester distribution points in the United States and Canada to get first-hand knowledge of the condition of products received. The laboratory and plants also are kept informed of protective conditions that need investigation through district sales office reports on irregularities in loading and packing.

Export shipments of fragile and precision mechanisms pose special packing problems. Export shipments receive many different kinds of handling. They must be cleared through customs; sometimes they are transported by river boat, plane or truck; in many cases vehicles are assembled at ports and driven inland on their own power under trying circumstances. Often they are stored for long periods in damp, inadequate warehouses. Pilferage is common.

Trends in Harvester's export packing include improvements in storage and warehousing methods to give added protection and conserve large areas formerly wasted through antiquated practices; export packing by contractors at ports, often including cargo containers to help prevent damage to fragile goods and stop pilferage of small articles; improved knowledge of handling and storage conditions in foreign countries; special training for packaging engineers and coordination of the efforts of shippers, railroads, ocean carriers, marine underwriters and others interested in adequate export packing.

Packing research efforts have paid off by giving additional safeguards to the quality of products and by showing a cost-reduction potential averaging well over a quarter of a million dollars annually for the past five years.

Measuring Material-Handling Truck Performance—David C. Prosser, *Senior Methods and Standards Engineer, Minnesota Mining & Mfg. Co., St. Paul, Minn.* Selection and application of material-handling trucks is very slipshod in industry today, Mr. Prosser said. If the maximum potential of these machines is ever to be realized, the tools of scientific management that apply to them must be discovered and provided. For example, by installing material-handling trucks and palletization, Minnesota Mining was able to reduce crews in its receiving warehouses from 145 men to 47 men, but investigation showed that better use of the equipment could save an additional $100,000 a year.

To develop a measurement tool, company engineers broke the fork-truck operation down into six basic elements as follows: (1) travel, (2) brake, (3) raise fork, (4) lower fork, (5) lift fork, (6) manual operations.

Each element was measured individually and under controlled conditions and a time value based on the measurement was assigned to each. After determining what safety and productivity rules and regulations applied to a given operation, the engineers determined how the operation was to be performed and described it in terms of the six basic elements.

This description, showing the sequence of the elements, was set down in a standard work procedure. The time required to perform the operation was determined by adding the standard time values for the various work elements required, with allowance for rest and delay. Each model and type of truck used in material handling was measured in this way and the resulting information was catalogued for easy reference.

This measurement tool has a number of applications. It gives the manager of material-handling operations a sound basis for controlling his costs. For example, measurement of material handling in a new warehouse indicated the trucks in the area were being utilized only 45% of the time. By increasing utilization from 45 to 90%, $30,000 a year could be saved.

Application of wage incentives is one of the most popular methods today of increasing productivity. But any wage-incentive application to be successful must be based on a sound and defensible measurement.

This type of information, catalogued and put into a simplified form, could help the salesman discuss with his customers the productivity of the truck he is selling, according to Mr. Prosser. It could help him justify the expenditure the customer would have to make for a truck and thus expand the field of use of material-handling trucks. A salesman also could use it in helping his customers gain maximum utilization of the trucks.

This tool also would offer the manufacturer of material-handling trucks a basis of comparison between his trucks and those of his competitors. It would give him direction for future design of his trucks.

If we can provide the data from a measurement of this type for all the various types and models of trucks in a catalogue form, we will have truly provided a basic tool of scientific management for the field of material-handling trucks and in turn will realize some tremendous cost reductions in applying and using powerful material-handling trucks.

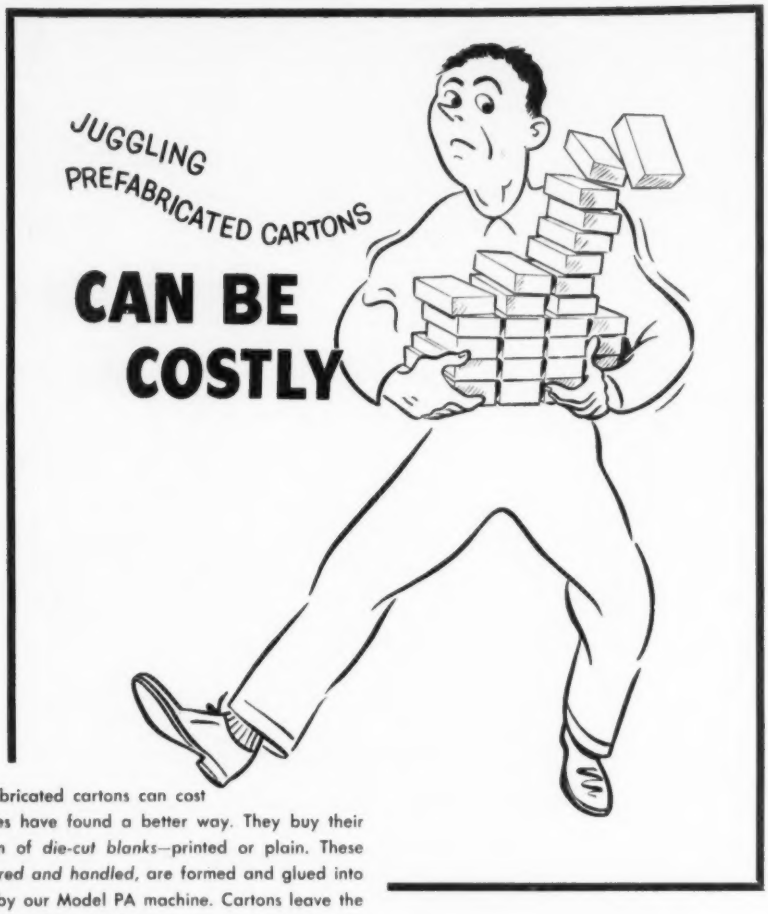
A Prestige Product Packaged by **BURT**

Where there are people, you will find colds . . .

Where there are colds, you will find famous BROMO QUININE Cold Tablets . . .

Where there are BROMO QUININE Cold Tablets, **you will find Boxes by Burt**

F. N. Burt Company Inc. · Manufacturers of Small Set-up Boxes, Folding Cartons and Transparent Containers
500-540 Seneca Street, Buffalo 4, New York
Offices in Principal Cities Or Write Direct
Canadian Division: Dominion Paper Box Co. Ltd., 469-483 King St. W., Toronto, Canada



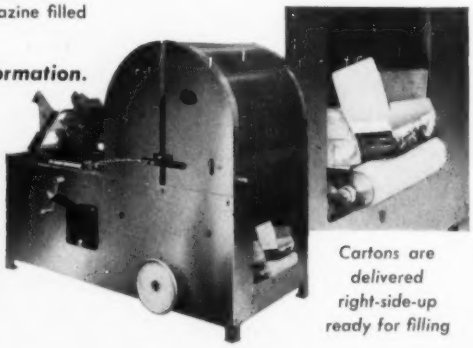
Handling and storing prefabricated cartons can cost you plenty. Many companies have found a better way. They buy their carton material in the form of *die-cut blanks*—printed or plain. These blanks, which are *easily stored and handled*, are formed and glued into finished cartons as needed by our Model PA machine. Cartons leave the machine right-side-up at speeds of up to 102 per minute, and can be automatically conveyed to the filling stations.

Many different types of cartons are being made on the PA carton former, so it is more than likely that it can be adapted to the type of carton you are now using. It is easily adjustable for various sizes. Requires virtually no attention while operating—attendant merely keeps its magazine filled with blanks. Occupies only 3'x6' of floor space.

Write or phone our nearest office for further information.

PACKAGE
MACHINERY COMPANY
CARTON DIVISION
SPRINGFIELD, MASSACHUSETTS

NEW YORK · CHICAGO · BOSTON · CLEVELAND
ATLANTA · DALLAS · DENVER · LOS ANGELES
SAN FRANCISCO · SEATTLE · TORONTO · MEXICO D. F.



Cartons are delivered right-side-up ready for filling

Measuring package odors

A standard procedure for identifying and rating odors in materials is suggested by a joint committee of TAPPI and PI

The evaluation and measurement of undesirable odors in materials has long been one of the most troublesome problems in the packaging field. The following suggested method is the work of the joint TAPPI-*Packaging Institute Packaging Materials Test ing Committee and represents the most significant step yet toward a recognized standard testing method. This report is the work of the committee while it was under the chairmanship of Dr. L. E. Simerl; he has since been succeeded by Dr. William H. Aiken. It was published in* TAPPI *in March, 1953, and is republished here by permission. The method has been designated as* TAPPI *Suggested Method T 483 sm-53.*

The presence of foreign or objectionable odors in packaging materials which are to be used near food, drugs, etc., may be a serious matter. The determination of the type and source of the odor, and the level, is the objective of this test procedure. The most sensitive instrument presently available is the trained human nose and the significance of test results will be directly proportional to the ability of a test panel organized for the purpose.

Test panel

The test panel shall consist of a test director and four to eight members. These preferably should be scientifically trained, with some knowledge of chemistry, selected carefully from those who have demonstrated an acute and discerning sense of smell and preferably with experience covering a variety of types of odors. Nontechnical personnel, such as office girls, have proved to be excellent panel members, after suitable training. In general, the individuals of a test panel should accord with the average of the entire panel and consistent disaccord is a basis for replacement. Any members with respiratory infection shall be omitted, since sensitivity is thereby impaired. The senses of taste and odor are closely allied and members of the panel should also be tested thoroughly for taste sensitivity and differentiation. Taste is a useful method of detecting odors, as described under Procedure.

The references should be consulted for further information on selection and training of panel members.

Apparatus

1. *Sample containers.* Vaporproof containers may be necessary for sampling, storage and holding specimens for the development of maximum intensity of odor. Friction-top tin cans, Mason jars and laboratory glassware are suitable. Containers shall be clean, dry and free from odor. Aluminum foil or cellophane shall be substituted for any rubber gaskets or stoppers. Samples may also be wrapped directly in foil, cellophane or vegetable parchment.

2. *Testing room.* Detection of low levels of odor requires working space in which individual members of the panel can concentrate. The room shall be free from plant or industrial odors and to avoid this it may be necessary to take samples home at night. Extremes of temperature should be avoided, except in special cases, and all distracting influences should be minimized.

Materials

(A) *Standard samples.* In some instances, standard samples, representing satisfactory and maximum permissible levels of odor, may be set up. Maintenance of the samples is a serious problem, since age and other factors may alter odors drastically. In all cases, it is desirable to have some type of reference sample available.

(B) *Water (odor free).* Moisture is commonly used to intensify odors or develop potential odors. Normally, tap water is satisfactory, except where residual odor or a chlorine smell is present. Distilled water is not always odorless. All water shall be smelled and tasted before acceptance.

(C) *Fatty materials.* A range of substances containing oil or fat may be used to pick up certain types of odors, with identification and degree of odor determined both by smell and taste. Common materials are mineral oil, milk chocolate, cream and fresh, unsalted butter.

Test specimen

The preparation of the test sample for presentation to the panel is very

PHOTO, FOSTER D. SNELL, INC.

MEMBER OF TYPICAL TEST PANEL sampling specimens for taste test. On table are three sets of eight cups—eight samples to be tested by each of three panel members. Note that cups are identified only by letters.

important. No one standard method of doing this is sufficient, since the type of materials under test and the possible odors present allow a wide range of possibilities. A few of the methods which have been used are given below as a guide; others may be devised as necessary. Each laboratory should develop and record the detailed preparation procedure found satisfactory for specific products.

I. *Direct testing.* Cut or tear representative samples of the packaging materials to a convenient size. It is often desirable to open up fresh surfaces at the instant of smelling (tearing paperboard, scraping wax with a knife, breaking open a glue joint, etc.)

II. *Moistening.* Water brings out some types of odors. By various mechanisms, and especially when the product may be subjected to moisture, try one of the following:

(A) *Breathing on sample.* The tester exhales on the specimen, then smells it.

(B) *Dampening.* Sprinkle the sample lightly with water, then smell. Time is sometimes required to develop an odor. Normally, the specimen is dampened, stored at 70 to 80 deg. F., or at 100 deg. F., in an odorless glass jar for 24 hrs., then tested.

(C) *Soaking.* Saturate or submerge the specimen in water for a period of time and at a temperature judged suitable for each case. Test by smelling both the water and the specimen.

III. *Transfer to oily product.*

(A) Place the specimen in a covered glass dish adjacent to but not in contact with mineral oil for 4 to 24 hrs. at room temperature. Oil-soluble materials such as printing-ink odor, kerosene, etc., can be detected by smelling the oil.

(B) Prepare three sandwiches with a pat of unsalted butter between two pieces of the specimen and overwrap with parchment or cellophane. Hold for one, two and three days, respectively, at room temperature; refrigerate for 30 min.; then taste and smell the butter. In preparing the reference samples, use odor-free parchment.

(C) Place the folded sample in a water-tight tray and add an inch depth of coffee cream (18% butterfat). Cover with aluminum foil, hold at 45 deg. F. for 24 hrs., then taste the cream. This procedure has been used widely for printing-ink odors and is very sensitive. As an alternative, strips of material may be placed in a dish or flask and covered with cream. Run a blank test on the cream in a glass bottle with a foil cap.

(D) Place the specimen in a covered glass dish adjacent to a piece of plain milk chocolate and hold at room temperature for one to two days. Taste the chocolate and compare with a control.

(E) Prepare a package by wrapping some commercial product, known to be sensitive to odor, with the specimen material. Hold for the desired time and temperature, then smell and taste the product in comparison with a control.

TABLE I—COMMON PACKAGING MATERIAL ODORS AND DETECTION METHODS

Material	*Type of odor*	*Test method*
Synthetic film	Inherent, solvent, plasticizer	I (24 hrs. at 100 deg. F.), III A, E
Paper and board	Inherent kraft	I, II A, B
	Musty or moldy (groundwood, old news, waste)	I, II A, B (4 hrs. at 100 deg. F.)
	Chlorinated phenol (additive for slime control)	I, II C
	Sour (decomposed starch)	I, II
Paper, coated	Volatile additives, casein decomposition	I
Glassine, coated	Inherent in coating; solvent, plasticizer	I (24 hrs., 100 deg. F.), III A, E,
Ink and varnish	Oxidizing oils, plasticizer, solvent	I, III C
Adhesive joints (after thorough drying)	Solvents, sour starch, added perfume	I (fresh and after 24 hrs. at 100 deg. F.)
Wax	Oil, residual oxidized solvent	I (fresh shavings at room temperature in small container), III E (cheese, for example)

Procedure

All samples shall be identified only by code numbers, including the control, and the panel director shall give the testers only the minimum amount of information prior to the test. The panel director shall give each member a set of specimens and a report form. Each tester shall work independently. Table I may serve as a procedural guide.

Report

(A) *Unknown odor.* Each individual panel member shall report the type of odor (oil, solvent, musty, etc.), its chemical nature and (if possible) origin. Complete agreement by the panel on type of odor cannot be expected, but with experience, the group report will serve as valuable data.

(This article continued on page 213)

TEST SHIPMENT. Impact meter and Ryan thermometer are packed in packages of beans for rail shipment from Nebraska to the East. Actual conditions of temperature variation and rough handling were thus measured as a control factor to rate performance of various types of cellophane packages for dry edible beans.

Cellophane for dry edibles

A report on the weights and types of film best suited to this growing kind of packaging.

By JUDSON A. THOMPSON*

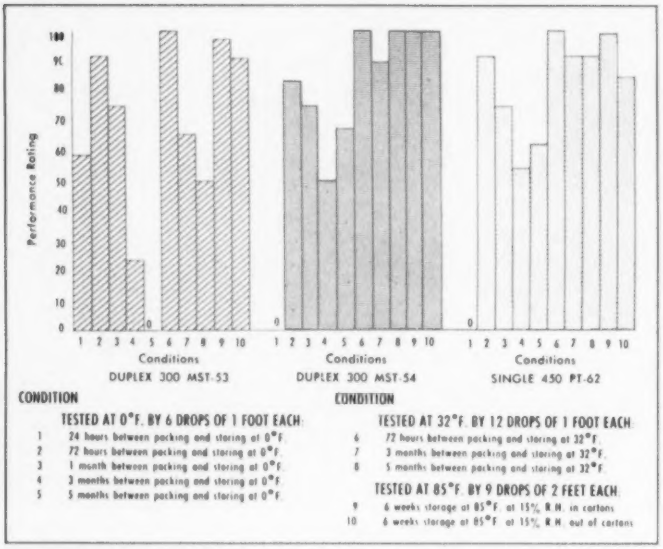
This study deals with a research project aimed at finding the most practical and durable packaging material for dry edible beans and similar commodities. The research work covered by this progress report principally involves studies in the use of cellophane. Findings in regard to other transparent films are to be published at a future date.

Practically all kinds of transparent cellophane have been used at some time or other for packaging dry edible peas, rice, lentils, garbanzos and related commodities. When unsuitable materials were used, considerable breakage occurred, resulting in loss of the commodity and expense to the packager in replacing broken containers. Also such breakage resulted in untidy retail shelves which caused many retailers and wholesalers to shy away from cellophane packages until they were assured that stronger and more adaptable films were being used.

Because of the chemical nature of cellophane, a variety and weight of film that may be suitable for packaging in one part of the country may not be at all practical in another. Also, some films that are entirely satisfactory for summer use are almost useless in areas where low temperatures are prevalent. These problems have made it necessary to develop a more uniform film that can be used in summer or winter and in all parts of the country to assure delivery of commodities to homemakers in attractive, economical and durable cellophane containers. Because different classes of beans, peas and rice are shipped to almost every state and since the packager usually does not know the destination of a shipment when it is packaged, it is often necessary to package the commodities in a film that will be suitable for all climatic conditions.

Although most of the rice is packaged in the South and used in that area, a sizable quantity is packaged and shipped to the northern states. A film that would be entirely satisfactory for the warm, humid climate of the South may well develop considerable breakage if exposed to low temperatures of the northern states or to the arid climatic conditions of the Southwest. This makes it necessary for the packagers to use a film that is the best all-purpose packaging material or, as an alternate, to segregate rice packaged especially for Northern shipments and be certain that such

* Marketing Research Specialist, U. S. Dept. of Agriculture, Production & Marketing Admin., Grain Branch, Washington, D.C. This study is condensed from a report by the same author, "Trends in Packaging Materials and Equipment for Dry Edible Beans and Related Commodities."


Performance Rating
100
90
80
70
60
50
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0
1 2 3 4 5 6 7 8 9 10
Conditions
DUPLEX 300 MST-53
DUPLEX 300 MST-54
SINGLE 450 PT-62
CONDITION
TESTED AT 0°F. BY 6 DROPS OF 1 FOOT EACH
1 24 hours between packing and storing at 0°F.
2 72 hours between packing and storing at 0°F.
3 1 month between packing and storing at 0°F.
4 3 months between packing and storing at 0°F.
5 5 months between packing and storing at 0°F.
CONDITION
TESTED AT 32°F. BY 12 DROPS OF 1 FOOT EACH
6 72 hours between packing and storing at 32°F.
7 3 months between packing and storing at 32°F.
8 5 months between packing and storing at 32°F.
TESTED AT 85°F. BY 9 DROPS OF 2 FEET EACH
9 6 weeks storage at 85°F. at 15% R.H. in cartons
10 6 weeks storage at 85°F. at 15% R.H. out of cartons

RESULTS of drop tests made with various types of cellophane packages indicate Duplex 300 MST-53 offers best durability rating for Condition 3, which most nearly approximates typical packaging requirements for beans.

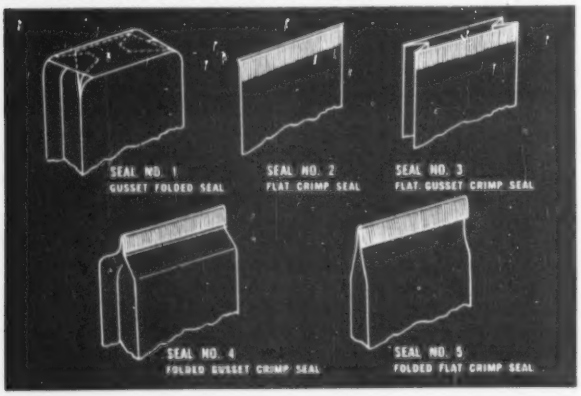
lots are utilized in the northern states.

Because the solution of the problems at hand involved cooperation of film manufacturers, converters, packagers, railroads and others, it was essential for the purposes of this study to seek cooperative assistance that would result in the most efficient use of the available facilities.

In March, 1949, an informal arrangement was entered into with E. I. du Pont de Nemours & Co., Inc., to determine the best weight of single film or combinations of films for each consumer-sized container used for rice, beans, peas and related commodities.

Arrangements were then made with the Shellmar Products Corp. to print and convert the films into prefabricated bags and to make web stock of some of the different weights and varieties of cellophane for use on special bag-forming and loading machines. The converted bags and films were then forwarded to Chester B. Brown Co., Morrill, Neb., for use in packaging 2-lb. units of Great Northern beans.

VARIOUS FOLDS are used in the closure of packages for free-flowing commodities. Those illustrated below are typical.



Conclusions

On the basis of results of the research reported, the following conclusions are drawn:

1. *Durability of films.* The durability of the film designated as duplex 300 MST-53[1] is superior to that of either duplex MST-54 or single 600 MST for at least a month after packaging. Since this is the length of time in which most of the packaged rice and dry pulses (leguminous seeds) may be in transportation channels, the emphasis must be upon the early life durability of the package. Prolonged storage results in a falling off in the durability of the double-wall 300 MST-53 package.

There is a very special hazard in subjecting single 600 MST or duplex 300 MST-54 to transportation at low temperatures within 48 hrs. after packaging.

2. *Film shrinkage.* Duplex MST-53 bags shrank down on the product more than other bags used in this test. In using this bag, consideration should therefore be given to: (a) the elimination or reduction of settling of contents in bags by vibration during the filling operation and (b) not folding the top of the bag down too tightly on the product during the closing operation. The shrinkage of MST-53 is very much accentuated when high-moisture beans are packaged.

3. *Weight and loss of product.* Duplex MST bags conserved the weights of products much better than single MST or PT films. The weight loss of products packaged in PT films was excessive and would indicate the need for a high-weight (as much as 2 oz. per lb.) overpack to insure that packages would meet weights-and-measures standards after long shelf exposure in adverse dry atmospheres.

4. *Reverse printing on film.* Duplex MST bags allow reverse printing of the outer wall, adding brilliance to the package.

5. *Use of heat-seal or pressure-sensitive tape.* The MST bags allow the packager to close his packages by either heat-sealing or pressure-sensitive tape. The extra cost of MST over PT film can be offset, largely or completely, by the following: (a) the

[1] Code for various types of films is as follows: A—anchored (water resistant); C—colored; L—less moistureproof than M films; M—moistureproof; P—plain (non-moistureproof); R—rancidity retardant; S—heat sealing; T—transparent.

use of high-speed automatic packaging machinery which fabricates the package from rolls of single- or double-web film, loads the bag with the product and finishes the package by heat-seal closing. Other automatic equipment starts with the prefabricated bag, loads it and then closes it by heat seal. The simplest utilization of heat seal is the operation wherein bags are loaded by hand or on an automatic filling machine and then closed by one of many types of simple units applying heat and pressure to the top of the bag; (b) use of smaller quantities of pressure-sensitive tape. The use of moistureproof film and heat-sealing equipment makes it possible to reduce materially this item of cost; (c) less overpack for weight allowance. Both the pressure-sensitive tape and heat-seal closures were satisfactory for the duration of the test on all bag constructions.

6. *Exposure of bags to high humidity.* Because of the possibility of mold, the use of PT bags should be avoided for beans of all moisture content if the bagged product will be stored in areas of very high humidity similar to that in the area along the Gulf Coast.

7. *Storage in areas of low humidity.* The MST bags, and particularly duplex MST bags, should not be used on beans containing more than 17% moisture. In addition to the development of mold, a very disagreeable odor can develop during storage. The rate at which these adverse characteristics develop will depend upon: (a) the amount of damage and mold spores in the beans at the time of packaging; (b) the initial moisture content of the beans—the more moisture, the more severe the condition; (c) the relative humidity of the storage area; (d) the temperature of storage—higher room temperatures accelerate development of adverse characteristics; (e) time of storage and (f) whether packages are stored within or outside the shipping cartons.

8. *Use of PT bags in packaging high-moisture beans* (not over 17% moisture). There is always danger of mold and odor development in high-moisture beans packed in any kind of container. However, if it is known that storage subsequent to packaging will be at low humidities, the proper cellophane bags would be duplex 300 PT or single 600 PT for the 2-lb. unit. Duplex 300 PT has the advantages of: (a) slightly greater durability; (b) practicability of reverse printing of the outer wall, which adds brilliance to the package appearance. Single-wall bags are printed on the outside surface to avoid contact between the printing inks and the food product in the package.

9. *Appearance of packages.* The appearance of the packages throughout the test was satisfactory, with the following exceptions: (a) duplex 300 MST-53 shrank down too tightly on the very high-moisture beans, causing a skin-tight fit over the beans. This resulted in a slightly "bumpy" surface; (b) the 300 MST-54 cellophane after three months or more of storage wrinkled and puckered slightly below the "acceptable grade." This "acceptable grade" is an arbitrary appearance established for laboratory control and does not mean that the package would be unacceptable by the homemaker; (c) the 600 PT and 450 PT-62 films with high-moisture beans in low-humidity storage were also found to be below the laboratory margin of acceptance after five months' storage under these conditions.

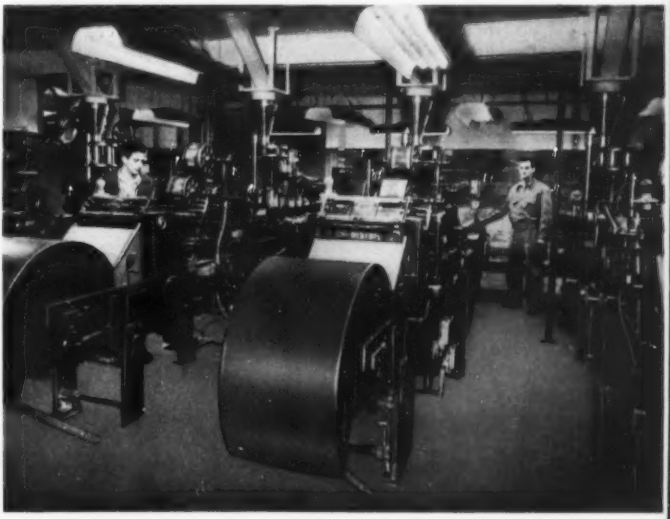
10. *Sealing of bags.* The adhesive used in this test did not discolor in any bag construction under any of the conditions imposed. The strength of the seals was generally sufficient for the duration of the test. The thermoplastic side seals of machine-made units were particularly resistant to the effects of a moist product and high-humidity storage.

Test procedure

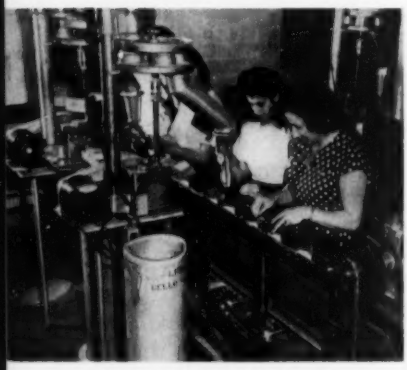
The packaging tests on which the above-mentioned conclusions are based were set up at the Nebraska plant of the Chester B. Brown Co., using cellophane converted by Shellmar Products Corp. Prefabricated bags were used for one set of packages and continuous roll stock for another study. Two-pound containers of Great Northern beans were prepared and packed, 24 units per shipping case. The packaging was done March 22 and 23, 1949.

For durability tests on medium-moisture beans (11.8%), 360 2-lb. containers were packaged and sealed for storage of one, three and five months at temperatures of zero deg. and 32 deg. F. Sixty packages of the duplex 300 MST-53 were made from roll stock and filled and sealed by an automatic packaging machine. The other packages, of several kinds and weights of film prepared for this packaging study, consisted of printed bags which were filled by a volumetric loader and sealed by hand; part of these were sealed by pressure-sensitive tape and the others were heat sealed. Each package was coded by a number to represent the kind and weight of

VOLUME PRODUCTION in packaging beans is one of the pronounced trends in this field. The packaging room shown is equipped with four automatic bag-making, filling and sealing units.



MASTER-FEED CONVEYOR brings mixed output of packages from the battery of packaging machines to the packing station. Today's operations accent cost-saving methods and equipment.



VOLUMETRIC FILLING is here performed by hand. This method is popular in many of the smaller plants. Net weighing, however, is likely to be specified for limas, almonds and similar products where the utmost accuracy is imperative.

cellophane used and the kind of closure employed.

The bags were packed into shipping cases by placing the coded packages in each row according to a plan designed to provide equal abuse for each different type of package when the shipping cases were subjected to durability tests.

The corrugated cartons were from Eggerss-O'Flyng Co. and were stamped 200-75-65. The fit of bags and all cartons was snug. The bags were packed flat (bottom panel down) and arranged in four tiers of six packages each. Each tier had two rows of three packages.

Protection and appearance evaluation studies were made of beans of medium moisture (11.8%) and high moisture (18%) stored under different relative-humidity conditions. Then 146 packages of different kinds and weights of film with both heat-seal and pressure-sensitive-type closures were prepared with both the high-moisture and the medium-moisture beans. Half these quantities were stored under relative-humidity conditions of 25 to 30% and half under relative-humidity conditions of 80%.

Two days intervened between packaging the beans and loading them into a freight car. The specially packed cases of beans were trucked 12 miles to Morrill, Neb., and loaded into one end of a 50-ft. freight car on March 25 and held in place by a wooden bulkhead. The beans were shipped from Morrill on the same day and arrived in Wilmington, Del., on April 13. The car was routed via Chicago to Wilmington. A train transfer was made at Chicago and stops were made at Cumberland, Md., and Washington, D. C., for partial unloading of other car contents. The distance traveled was 1,877 miles.

Ryan thermometers indicated that the temperature within the cases during transit was initially 58 deg. F. and then, after conditioning to car temperature, varied between 40 and 50 deg. F. for the remainder of the trip. Outdoor temperatures were rather mild for this period of the year. Several fairly severe impacts in transit caused wide swings on the impact recorder. Due to these impacts, the bulkhead was severely damaged and had to be rebuilt at Washington, D. C.

The packages of beans were rated in a series of tests, supplemented with laboratory findings based on continuing storage under various controlled conditions of cold, warmth and relative humidity. The conclusions previously cited are derived from these tests and are based on a sequence of grading methods that were set up to measure durability, weight changes, mold and odor development, shrinkage, condition of seals and package appearance.

Methods and equipment

The testing of materials, alone, was considered only part of the general problem of improving the packaging of dry edible commodities. A second phase of this study is, therefore, concerned with methods and equipment.

In order for country shippers and packagers of beans and peas to comply with the requirements for superior quality, it has been necessary to modernize handling, cleaning, storing and packaging methods. In some of the areas practically all crops are now handled in bulk in comparison with very small quantities handled that way a few years ago. This practice is economical not only for handling, but also for reducing the requirements for 100-lb. bags made of burlap, osnaburg and other expensive materials. It also expedites the movement of the commodity from farm to packaging plant and bulk trucking is now becoming an important factor in the movement of dry beans.

Bags can be made from roll stock either printed or plain and either single or duplex. The two weights of film used in the duplex bags may be the same or of different weights, as required. For example, both walls or webs could be 300, or one 300 and one 450 MST. Attachments are available so that the position of the label can be controlled by electric-eye register. The label can be on the outside of a single wall or between the walls of a duplex combination.

Several kinds of machines are equipped to make the bag, seal the sides and bottom, open the bag and move it on to a station for filling. The unsealed bag is then moved through a station for shaking and settling the contents before going on to an automatic sealing device. There are a number of different types of folds used in sealing.

Some machines are equipped with volumetric measures, whereas others have dribble net weighers which can be accurate to one bean. However, for lima beans and other larger products such as almonds, walnuts and macaroni products, it is advantageous to use the net weigher because of its greater accuracy. These types of machines are often built onto the packaging machines; however, some packagers use the automatic weighing equipment in conjunction with hand filling and either automatic or hand sealing. Practically any product bagged by hand can now be controlled in filling by either volumetric or net weigher. Usually the PT (non-moistureproof) bags are sealed by hand by using pressure-sensitive tape, whereas the MST-film (moistureproof heat-sealing) bags may be sealed by one of the sealing machines or by pressure-sensitive tape.

Manufacturers have developed ma-

chines with wide flexibility so that a machine can be converted in a few minutes to handle another size of container with a minimum of labor and with only a few parts to change. Also, the machines are constructed so that they will handle the duplex bags at the same rate of speed as the single weight. Some changes can be made by a crank adjustment with very little effort.

The rate of packaging varies by kind of machine, commodity being packaged and size of container. The output usually varies from 35 to 60 packages per minute with an average for 1- and 2-lb. sizes of about 35 to 40 packages per minute. When the machines are operating at a higher speed, more breakage is expected and the net output is often reduced over a long period of time.

In recent months a high percentage of the equipment installed for the packaging of rice and dry edible beans and peas has been of an all-automatic or semi-automatic nature for bag making, filling and heat sealing.

Considerable undependable and expensive labor has been dispensed with through the use of mechanical packaging equipment. There is now less hand-filling packaging equipment being installed and this accounts in part for so many of the smaller packagers discontinuing operations.

The use of heat seals makes it possible to use moistureproof film which controls the weight of the packaged commodity more uniformly. Packaging in plain (non-moistureproof) cellophane made it necessary for packagers in some areas to overpack the commodity up to 2 oz. per lb. in order to assure the homemaker that the quantity stipulated on the container was present at the time of purchase and to avoid possible prosecution by Federal and state officials because of short weights. This practice, of course, was costly. The moistureproof or heat-seal film makes it possible to overpack only slightly and to maintain the weight of the container for several months.

Moistureproof film has proved to be more durable under most conditions and less breakage occurs with the use of this film.

When automatic equipment is used, handlers are assured of more uniform packages and the human element in sealing is eliminated.

At present there are several outstanding kinds of bag-making, filling and sealing machines on the market. The price of this equipment is not excessive so that the installation costs of most of the machines can be met by at least the medium to large country shipper-packagers. A number of firms have found it advantageous to install more than one machine so that one can be retained for packaging 1-lb. containers, another for 2-lb. containers and a third for 3-lb. sizes.

In the rice and dry edible bean and pea industries there are more than 200 all-automatic or semi-automatic machines in use. This equipment has made it possible for packagers to meet increased production expenses and to package a high-quality product at a minimum cost. The fact that packagers can maintain a high rate of output of top-quality products with this equipment accounts, at least in part, for the low-priced packaged commodities on the grocery shelves today. To maintain the greatest sales and a high-quality product, the package must be neat, well made and have an attractive brand label with the maximum eye appeal to the homemaker.

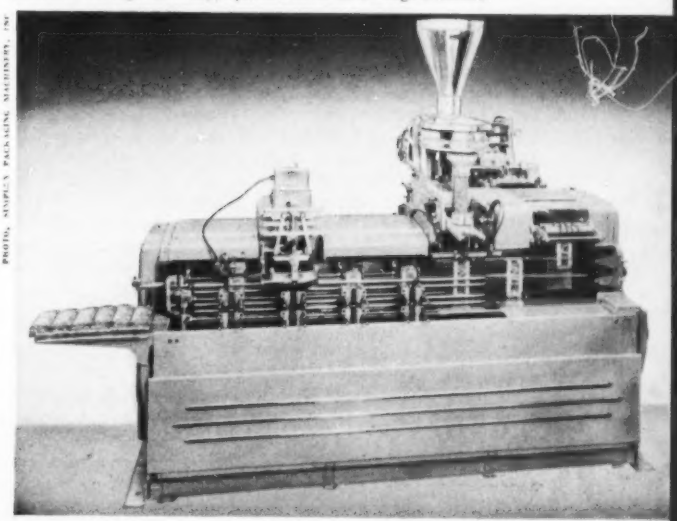
The insect problem

Distributors of rice, beans and peas have been interested in developing or obtaining a fully satisfactory packaging film especially suited to the southern states. During the summer months, insect contamination of cellophane-packaged commodities has given some trouble and in spite of the extra precautions to package only well-fumigated commodities, live weevils can penetrate the film, lay eggs and an entire lot can become weevil infested in a very short time. The industry has been very much interested in this problem and has asked for research assistance.

Packaging films of the different weights used in the other packaging tests were forwarded to Howard D. Nelson, entomologist, of the Bureau of Entomology and Plant Quarantine, Modesto, Calif., for insect-penetration studies. The packages were filled with blackeye beans, which are very susceptible to weevil infestation, and exposed to both the cowpea weevil and the bean weevil. The results of the test demonstrated that the adults of both species of weevil were capable of penetrating each type of film, apparently with very little difficulty. Additional tests were made with other packages obtained from the dry-bean industry with the same results. The duplex 300-weight bags were penetrated more readily than the heavier weights; however, both 600 MST and 600 PT films were bored to some extent by these insects.

(*This article continued on page 220*)

COMPACT AUTOMATIC UNIT, equipped with volumetric feed and automatic filling, settling and sealing devices, makes bags from roll stock of cellophane. Used primarily for small beans and short cuts of macaroni, machine has high accuracy, operates at 25 to 30 bags a minute.



PHOTO, MODERN PACKAGING MACHINERY, INC.

Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 575 Madison Ave., New York 22, N. Y. Your name or other identification will not appear with any published answer.

Bag for evaporated apple slices

QUESTION: We are interested in the packaging of evaporated apple slices in a 1-lb. size, using a printed bag of some type. Shelf life of the product is upwards of one year. We have considered using a greaseproof paper or a greaseproof paper laminated to kraft. Can you suggest a better construction?

ANSWER: There are too many unknown factors for anyone to make valid recommendations concerning your problem. There are several different types of dried apple products, varying from those with very low moisture content to those that have moisture contents in equilibrium with normal humidities. If your product is the low moisture-content type, then it will be necessary for you to use an extremely moistureproof package for one year of storage. A similar packaging problem has been described in MODERN PACKAGING ("Moistureproof Shipment," Oct., 1952, p. 133). This article describes some of the problems and the final answer to the packaging of one type of low-moisture apple product.

If, however, your apple product is in equilibrium with normal atmospheric humidities, then your major problem may be the elimination of infestation, with no problem of moisture protection. The construction you have suggested would be suitable for this type of product except that there is no particular reason to use a greaseproof paper, since the same result might be achieved with papers of lower cost and which possess greater strength.

The best answer to your question is to have your laboratory determine the packaging characteristics of this product and then make a test on several different bag constructions. The result of this work will give you reliable information on the degree of protection required for packaging of this product.

Laminated vs. duplex materials

QUESTION: Can you give me some practical reasons why duplex constructions can not be used in place of laminations? For example, why not use separate films of cellophane and polyethylene in place of laminated or coated material? Your answer to these questions will be appreciated.

ANSWER: The basic reason or theory behind the use of multiple plies of materials, whether as separate layers or as laminations, is to take advantage of the different properties of each material.

Suppose we consider, as an example, a combination of cellophane and polyethylene. The cellophane is not thermoplastic; it is highly resistant to the transmission of oxygen and many other gases. Polyethylene film is thermoplastic, makes excellent heat seals and has good moistureproofness and excellent waterproofness. A package properly made using these two materials could have a high degree of protective qualities for many products. However, there is always the problem of fabricating the materials into a final package which will have protective qualities approaching those of the materials in its construction. In some cases there is also a problem of how multiple-ply packages can be fabricated for a maximum of strength and for operation on automatic equipment.

There would be many problems in attempting to make a duplex package out of separate plies of cellophane and polyethylene, particularly in making seals and closures, since the two films would not stay attached. By the use of a laminated or coated combination there would be no ply separation in making face-to-face seals and maximum protective qualities of both the cellophane and the polyethylene would be obtained. The laminated structure would be more transparent than the duplex combination and this would be a considerable advantage for many types of products. Also, laminated or coated combinations require simpler package-making machinery.

Distortion of paper-plastic packets

QUESTION: We would like to use a paper and plastic-film combination in one of our packet packages, but have never been able to find a combination which will not show wrinkling and distortion. Would it be possible to find a paper which would not wrinkle and distort the package under these conditions?

ANSWER: It is possible to modify papers with the addition of certain resins and impregnations which greatly increase the strength and dimensional stability of the papers themselves.

However, no paper combination can be made which approaches in stability most of the plastic films. Plastic films in general show very marked dimensional change with extreme changes in humidity. As a result, there is a considerable difference in the dimensional change between paper and the plastic films, and this causes the distortion and wrinkling you have noticed.

A possible answer would be to eliminate the paper entirely and to use opaque plastic film, which could be printed and which would provide you with an excellent surface color. This would result in entirely eliminating your problem.

Safe, easy-to-handle carboy of Du Pont ALATHON* holds more...weighs less...cuts shipping costs

It's another packaging improvement made possible by the outstanding properties of "Alathon"

This new carboy offers greater utility and economy for the shipment and storage of corrosive chemicals. The inner container, molded of Du Pont "Alathon" polyethylene resin, has less than half the weight of conventional carboys. This means easier handling, lower shipping costs. The moldability of "Alathon" permits the square shape, which allows more capacity. The square shape also allows stacking for quick palletizing, and the fullest use of shipping and storage space.

"Alathon" has exceptional chemical resistance. It is tough and resilient . . . makes the carboy virtually unbreakable. "Alathon" is chemically pure (contains no plasticizer). And it has a very low rate of water-vapor transmission.

This carboy consists of two half sections molded of "Alathon" and joined together by heat-sealing the flanged edges. A steel band is then bolted around the sides to form a permanent mechanical seam.

The screw cap, seal and pouring spout are also molded of "Alathon." The spout is reversed inward during shipment, is pulled up and reversed outward for easy pouring.

Du Pont "Alathon" has many applications in the packaging industry—as molded containers and closures and as a coating for paper. Perhaps it can help you in your future packaging needs. For full information, write: E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 246, Du Pont Bldg., Wilmington 98, Del.

*"Karbox"†† Carboy molded by A. L. Hyde Co., Grenloch, N. J., for Tennessee Products & Chemical Corporation, Nashville, Tenn.

††T. M. Tennessee Products & Chemical Corp.

*REG. U. S. PAT. OFF.

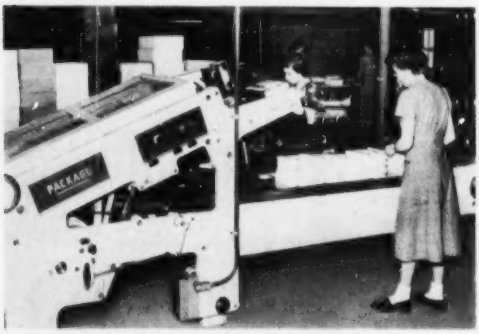
DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY
Polychemicals
DEPARTMENT
PLASTICS • CHEMICALS

Equipment and materials

A NEW GLASS AEROSOL CONTAINER
is now available from the Wheaton Plastics, Co., Mays Landing, N. J., to package a wide range of products without danger of corrosion. Since glass is chemically inert, it can hold most types of products including toiletries, chemicals and medicinals, the company says. The manufacturer also emphasizes the aesthetic appearance of finished containers which can fit into the decor of any bathroom or bedroom. The bottles are coated with a plastic

shell which, provided in various colors, offers an excellent surface for printing. The coating is said to have a tensile and tear strength sufficient to render the bottle shatterproof should it break upon dropping and company laboratory tests show that the new aerosol bottle will not even break nine out of 10 times. Styles, shapes and capacity of bottles will be limited in the beginning and choice of colors is based on quantities sufficient to justify production. The Boston-round type of bottle, with a capacity of 2¾ oz., is one of the first bottles available. Other capacities and styles, the latter being limited to reasonable rather than severe designs, will be produced in the future, according to Frank H. Wheaton, Jr., president of the company. Illustrated are two types of plastic valves and an injection-molded polyethylene closure which can be obtained.

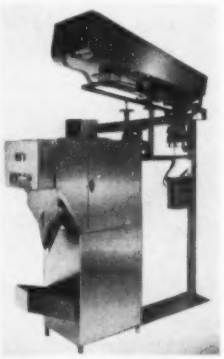
A NEW TEXTILE-WRAPPING MACHINE
that can accommodate items from 4 to 16 in. in length, 2 to 9½ in. in width and ¾ to 5¾ in. in height provides extreme versatility, in that it is suitable for packaging underwear, diapers,



hosiery, sheets, pillow cases, handkerchiefs, etc. The machine offered by the Package Machinery Co., East Longmeadow P. O., Springfield, Mass., and known as the Model Universal-6, will package goods on flat cards, trays or in cartons. Some products may be wrapped without any card at all. Either plain or printed wrapping materials may be used. When printed material is used, the machine is equipped with an electric-eye registration device. A single hand-wheel adjustment—for the length of the product—sets the machine for size. Variations in width and height are taken care of by the machine's self measuring paper feed that cuts off the correct amount of wrapping for each item. This makes for a uniform underlap, as well as a saving of wrapping material. With one operator to feed and remove the wrapped packages, the machine operates at a speed of up to 40 packages a minute. A Thermo-Print top labeling device with imprinter for use with roll-type thermoplastic labels can be provided.

TIN-TIE POLYETHYLENE POUCHES
produced by the Comet Envelope Co., 5 E. 17 St., New York, from Cheslene film supplied by the Chester Packaging Products Corp., 284 Nepperhan Ave., Yonkers, N. Y., offer an economical closure for a practical and resealable package. The heat-sealed pouch, made of clear polyethylene tubing, has the colored polyethylene tin-tie heat sealed to the pouch. The illustration shows the plain bag and one filled as it is used by the Armed Services Medical Procurement agency. Suggested civilian applications for the bag are for carrying cosmetics, for use in automobiles and refrigerators.

A NEW FLEXIBLE NET WEIGHER AND FILLER
for light, dry products has been introduced by the Woodman Co., Inc., Decatur, Ga. Called Fleet-Weigh, the machine is said to give positive accuracy through the company's principle of controlled continuous feeding. Speed is obtained by using two scale hoppers on one beam scale with a patented transfer mechanism to give an uninterrupted flow of product. The machine is designed for any semi-dry, free-flowing product such as cookies, candy, macaroni, potato chips, cereals, etc. It will handle a weight range from 2 oz. through 1 lb. The illustration shows the machine equipped with a high-level feeder and semi-automatic filling spout which gives a speed average of 25 to 28 packages per minute. It is also available with a low-level elevating feeder and automatic filling heads.



A NEW SHRINK-WRAP FILM
called "Sparkle" is now standard for all Cry-O-Rap plastic bags measuring up to 7 in. in width, according to an announcement by the Cryovac Division of Dewey & Almy Chemical Co., Cambridge, Mass. The newly developed film is reported to have in-

Wildroot automatically cartoned by JONES

To satisfy the steadily increasing demand for Wildroot products, three Jones Fully Automatic Cartoners were selected for Wildroot's high speed lines. Each cartoner handles six sizes of bottles and cartons, plus leaflet, at speeds up to 160 per minute. Wide range and flexibility provide the invaluable assurance that new sizes and new products can be added at any time.

High speed and ready convertibility from size to size are assured by these features:

1. Two star wheels—separator and feeder—gradually transfer the bottles to the individual conveyor carriers without the "clash-bang" of a single star or straight pusher. The transfer is positive, without dependence on the driving power of the plate chain conveyor. Both "finger grip" and "violin shape" bottles are handled interchangeably at high speeds.

2. Jones' standard carton feeding and opening mechanism, unparalleled in its positive action, handles the air-cushion carton, with inner cradle and 4 end flaps, as efficiently as a conventional carton.

3. Quickly adjustable, 3-chain carton and bottle carriers. For any width of bottle and carton within the generous range of 1½ to 8 oz., the adjustment is made simply by advancing or retarding a central sprocket. This eliminates the tedious changeover task of adjusting each carrier, or applying inserts.

4. Fully adjustable closing and tucking units have positive locations for different sizes.

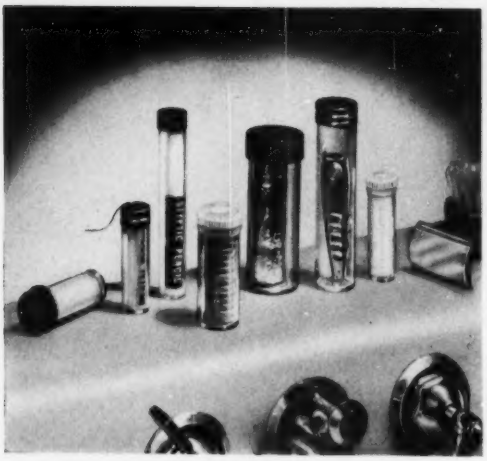
5. Leaflet folder fully adjustable to feed flat leaflets, 4" x 4" up to 10" x 10". Folds 2 or 3 times, centrally or off-center, permitting use of one size of flat leaflet for loads varying widely in width.

These features and many others have prompted a majority of successful, cost-conscious manufacturers to select the Jones Constant Motion Cartoner. They know that only the *finest cartoning machine* will give them the *lowest cartoning cost.*

R. A. JONES & COMPANY, INC.

Cartoning Machines — Soap Presses

P. O. BOX 1295 · CINCINNATI, OHIO



You profit

when your products reach home

Products that linger on dealers' shelves profit nobody. Bring them home by packaging in the container that will attract customers and prospects. Package in Lermer Plastic Containers, the vehicle that offers the utmost in eye appeal, protection and long life. Even after the contents have been consumed, the containers are re-used for other purposes and your name remains with your customers as a reminder for additional purchases. You have proved that you use the finest package available and the cost to you is no more than ordinary packaging.

CONSIDER THESE UNEXCELLED ADVANTAGES OF LERMER PLASTIC CONTAINERS.

- **They Are Shatterproof, Assuring Customer Good-Will**
- **75% Lighter Than Glass, Saving You Money in Packing and Shipping**
- **Not Affected by Alcohols, Alkalis, Weak Acids**
- **Tasteless and Odorless**
- **Available Clear or Opaque, in a Host of Bright, Lustrous Colors**
- **Can be Printed or Decorated during Manufacture**
- **Always Uniform for Easy Labeling, Filling and Capping**
- **Available with Metal or Plastic Closures**

Write for complete catalog information and samples. Detail your problems and let our creative staff help. Lermer is famous for Experience, Service and Creative Engineering.

Lermer PLASTICS, INC.

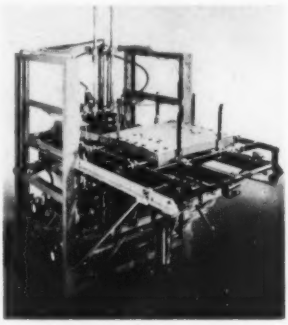
PIONEERS AND PACESETTERS IN PLASTIC PACKAGING

502 SOUTH AVENUE, GARWOOD, NEW JERSEY

Equipment and materials

creased eye and mass-display appeal, particularly for smaller packages of frankfurters, butts, cut-up chicken and ring bologna. The film has the same qualities of contour-cling and toughness as the previous Cry-O-Rap bags. Available either printed or plain, it will continue slightly higher priced.

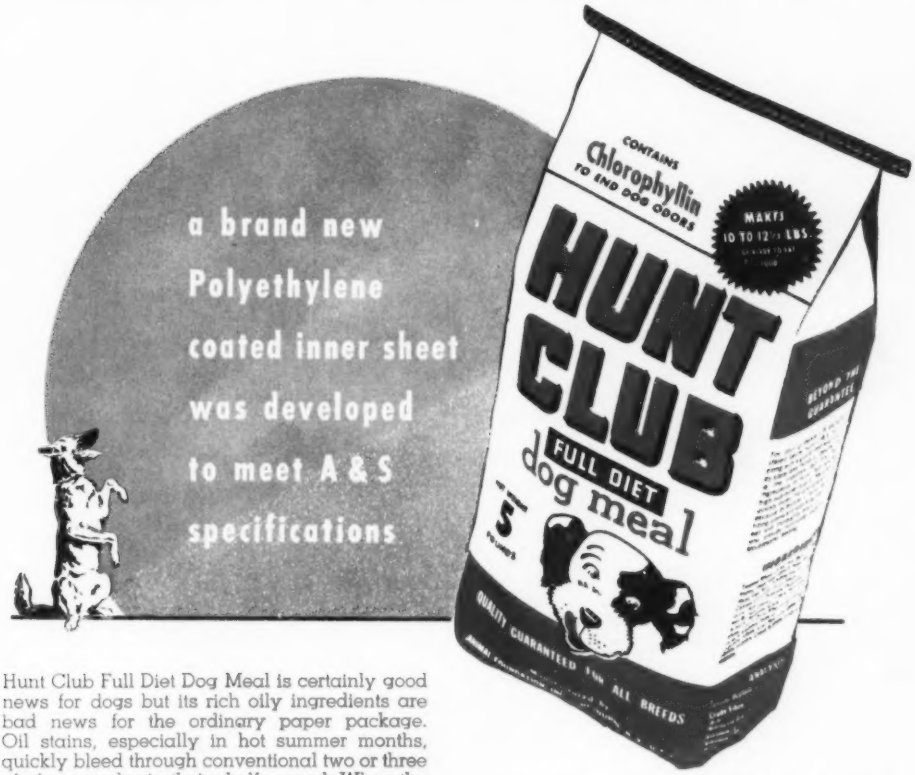
A PNEUMATICALLY ACTIVATED BOX-FOLDING UNIT developed by the Gaylord Container Corp.'s Research & Development Div., 2820 S. 11 St., St. Louis 18, Mo., in conjunction with the W. R. Pabich Co. of Chicago, is designed to handle, with a minimum of manual labor, the Higgins-style, self-locking, tray-type package. The hopper feed is capable of holding up to 100 box blanks, which is equivalent to approximately 6 to 7 min. of production. Thus the manpower requirement is approximately five man-minutes per machine hour. it is anticipated that this machine will be coupled with powered conveyor sections and automatic filling machines so that virtually all manpower will be eliminated from the packing line, according to Gaylord. The operating speed is 18 boxes per minute maximum, with a recommended speed of 12 per minute. There is no practical limit to size range, since machines are made to specification.



A NEW PLASTIC GRAVITY FILLER for acids with an all-plastic, sleeve-type, no-leak valve has been developed by the Horix Mfg. Co., Corliss Station, Pittsburgh 4, Pa. All contact parts throughout the machine are corrosion resistant for filling of sulphuric acid and other corrosive materials. The all-plastic filling valves are $1^{3}/_{16}$ in. in diameter. Feed line

and float are of hard rubber. The principle of operation is gravity flow; no vacuum pumps are used. The valves are opened by the raising of the empty containers against the valve seal, thus providing for no container, no fill. The bottle-lifter assemblies are fitted with plastic plate, and bottle guides are of plastic, as are the filler conveyor rails, change parts, tank cover and feed

HOW A&S PACKAGE ENGINEERING SOLVED A GREASE PENETRATION PROBLEM



Hunt Club Full Diet Dog Meal is certainly good news for dogs but its rich oily ingredients are bad news for the ordinary paper package. Oil stains, especially in hot summer months, quickly bleed through conventional two or three ply bags and ruin their shelf appeal. When the A & S Package Engineering Department tackled this problem it meant:

1 Developing a close bond between the Polyethylene and kraft.

2 Developing a light enough coating of Polyethylene to keep the cost in line.

3 Developing an adhesive to bond Polyethylene to kraft.

4 Fabricating the bag at high speed without reducing the protective properties of Polyethylene.

A & S Package Engineering overcame all four of these obstacles and Hunt Club Dog Meal is "selling from the shelf" in clean, colorful A & S PLASTO-PAK duplex paper bags. Where an exceptional protective barrier is required—for chemicals, fertilizers, dog food, salt, etc.—perhaps PLASTO-PAK is your answer.

THE OLDEST NAME A&S FOR THE LATEST WORD IN PAPER BAGS

ARKELL and SMITHS

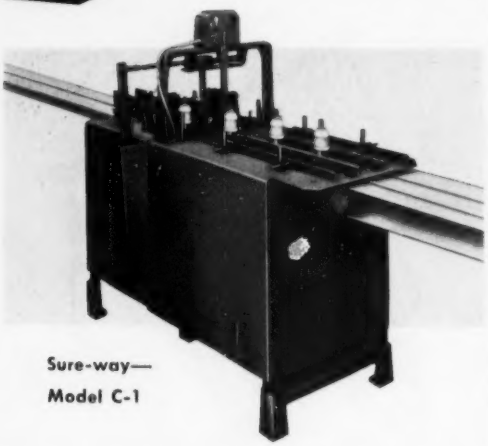
CANAJOHARIE, N. Y. · WELLSBURG, W. VA. · MOBILE, ALA.

A & S PREVIEW

Working with one of its three contract paper mills, A & S has developed **SUPER-RUFF**...A kraft with a purposely matted finish to take the slip and slide out of storing and stacking feedstuffs, flour and fertilizer.

THERE IS NO SUBSTITUTE FOR EXACT WEIGHT

A Message to Aerosol Producers...



Sure-way—
Model C-1

Are you experiencing the problem of controlling the percentage of product in relation to propellant in your pressurized can?

We have solved this problem for our customers by automatic, high speed checkweighing of the ingredients in the can.

Weighing *every* can before you add the propellant is a positive method of determining that you have exactly the same amount of product in each individual can.

Positive control of the net weight of your product before adding the propellant will:

- **Insure correct head space for the propellant.**
- **Provide a uniform quality of action in every can.**
- **Save product waste due to overfilling.**
- **Eliminate overweight and underweight cans from reaching the dealers.**

Sales & Service from Coast to Coast

Write us today for details on our high speed automatic checkweighers which will weigh, classify and sort your products into overweight, correct weight and underweight channels. Designed for direct installation in your production line.

EXACT WEIGHT SCALES

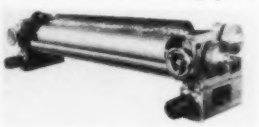
BETTER QUALITY CONTROL
BETTER COST CONTROL

THE EXACT WEIGHT SCALE COMPANY
914 W. Fifth Ave., Columbus 8, Ohio
2920 Bloor St., West, Toronto 18, Canada

Equipment and materials

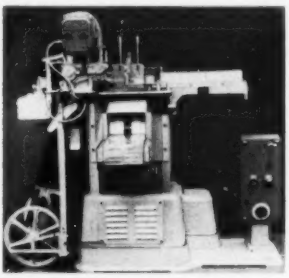
screw. The tank is acid-resistant coated. The machine is fitted with seven lifter assemblies to handle two containers per rest for ease of maintenance and handling. Filling height in the container is accurate to $\pm\frac{1}{64}$ in. All operations are completely automatic.

A NEW FLEXOGRAPHIC TRADEMARK PRINTING PRESS available from the Dilts Machine Works Division, The Black-Clawson Co., Fulton, N. Y., is reported to provide a quick and inexpensive method of applying manufacturers' trademarks or trade names in over-all patterns to web materials. Particularly adaptable to printing continuous web materials such as paper or board, the press can also be used for over-all coloring or tinting. This compactly designed unit, constructed especially for installation in a minimum of space (see illustration), is applicable to in-line operation with other existing equipment.



Also announced by the Dilts Machine Works Division is a new low-cost, two-arm winder for continuous winding of relatively small-diameter rolls at moderately low operating speeds of from 100 to 500 ft. per minute. This Dilts Model 15 machine will handle roll weights up to 1,000 lbs. Maximum roll diameter handled is 30 in., with roll widths between 30 to 60 inches.

A ROTARY BUNDLING MACHINE that is also adaptable to the overwrapping of single cartons—produced in England by Ayers & Grimshaw, Ltd., Barnstaple, Devon, under license from The Imperial Tobacco Co. (of Great Britain & Ireland), Ltd.—is being displayed at the 6th Canadian International Trade Fair this month in Toronto, Canada. Developed originally for overwrapping cigarette packets, the machine has been modified to extend its use to the handling of cartoned products. Materials that can be handled by the unit are cellulose films (either heat-sealable or non-heat-sealable), all kinds of coated papers, kraft and all laminates (kraft, foil, waxed paper, etc.). Minimum bundle size is 1¾ in. deep by 2¾ in. wide by 3⅜ in. long; maximum size is 3⅜ in. deep by 4 in. wide by 14 in. long. The machine is composed of three sections: bundler, collator and a reel-feed attachment, the last with or without a sealing device. The actual wrapping operation is effected on a rotary drum, revolving on a horizontal axis. Production rate with the reel-feed attachment, using either heat-sealable or non-heat-scalable material fed from a reel, is 16 bundles per minute. With the hand-fed version, using pre-cut heat-sealable wrappers, production rate is 12 bundles per minute.



A NEW TAPE DISPENSER introduced by the Industrial Tape Corp., New Brunswick, N. J., is designed to deliver various lengths of cellophane pressure-sensitive tape automatically from the roll. The new T5D Controlled Length Dispenser is of particular advantage in packaging applications, for it will speed production by enabling the operator to select varying lengths quickly and easily.

Industrial Tape Corp. has also announced a new tape, Permacel 691, which conforms to Government specification JAN-P-

Makes good packaging better... Kodapak Sheet

No wonder it all looks so good to Junior. Packages of tough, crystal-clear Kodapak Sheet show products at their tiptop best . . . color-true . . . free from distortion. They protect merchandise of all kinds from dust and dirt, make it sell better, faster—stay salable longer.

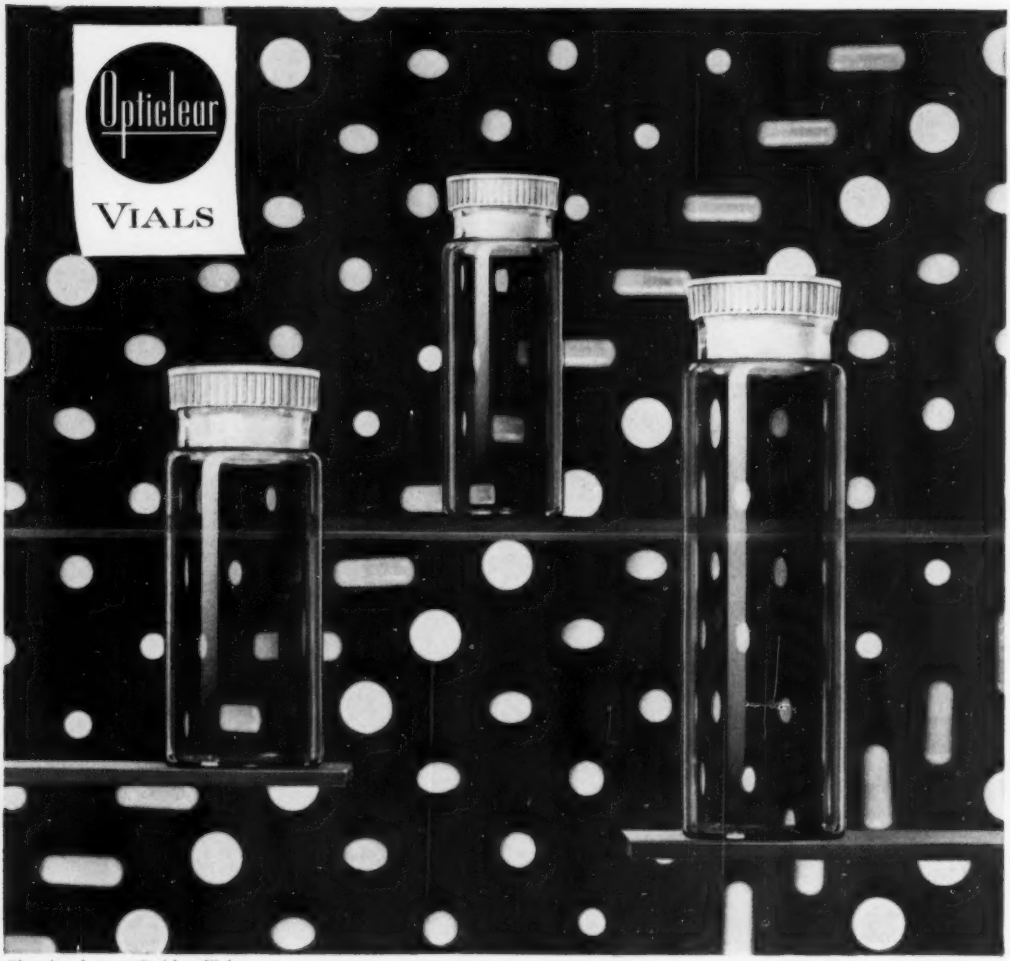
But that's only part of the story: Because Kodapak Sheet comes free from bubbles and surface defects . . . is uniform, versatile, economical to use—it is popular everywhere with package makers. Let your local representative tell you more—colors, types available, names of specializing firms. Or write:

Cellulose Products Division
Eastman Kodak Company
Rochester 4, New York

Sales offices:
New York, Chicago, Dallas.

Sales representatives:
Cleveland, Philadelphia, Providence.

Distributors:
San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.).



Gleaming, lustrous Opticlear Vials keep contents fresh and clean.

Pack in beauty – pack in KIMBLE OPTICLEAR VIALS

Show off the superiority of your product, and give it safe protection in handsome Kimble Opticlear Vials.

These trim, sparkling containers keep contents fresh, dry and clean . . . free from dust, dirt and moisture.

Inside a Kimble Opticlear Vial your product can be safely stored in refrigerators or bathroom medicine cabinets. New, resilient, plastic stoppers keep contents dry with a positive moisture-proof seal.

Distinctive Opticlear Vials improve the salability of every dry product packaged in them. See how attractive your product will look, too. Write now, and we'll send you free samples of the sizes you use.

KIMBLE GLASS COMPANY

Toledo 1, Ohio—*Subsidiary of Owens-Illinois Glass Company*

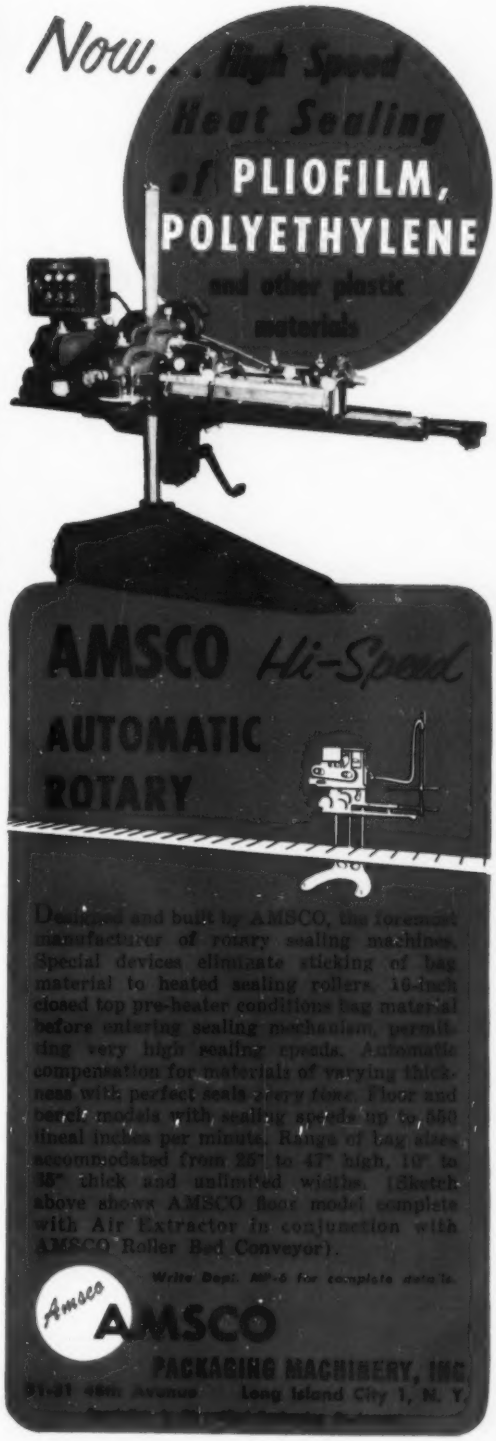
127, Type I, Grade B, for waterproof sealing of cartons and equipment. The new tape will serve as a companion to Permacel 68, but will sell at a much more economical price.

A CENTRAL CONTROL PANEL
for the Fillmaster-Conveyor automatic filling machine made by the Stuyvesant Engineering Co., 107 Stuyvesant Ave., Lyndhurst, N. J., enables the operator to control the entire machine from operating position. Without moving, the operator can use the dial control to regulate hopper agitation and settling vibration. A throw switch on the panel shuts off the entire machine.

A NEW ASPHALT-LAMINATED, REINFORCED WRAPPER
called Type MR Wrap-Dri, announced by the Thilmany Pulp & Paper Co., Kaukauna, Wis., is made up of two outer plies of sturdy kraft laminated by the company's double-coating process with specially blended asphalt. The reinforcing medium is a closely formed mat of twisted fibres firmly imbedded in the asphalt, reported to provide excellent all-directional tear and puncture resistance. In addition to the dispersed fibre reinforcement, three edge strings provide tearproof edges and supplementary longitudinal fibres at regular intervals across the web of the sheet give added strength. This new protective wrapper is available in widths up to 10 ft. without splice or seam. It can be printed for trademark identity.

A NEW SINGLE-EDGE BEADER FOR SHEET PLASTIC
known as the new Model 144 Taber Thermobeader, offered by the Taber Instrument Corp., 111 Goundry St., North Tonawanda, N. Y., is reported to give improved uniformity with greater speed, bringing greater economy to straight-edge plastic beading operations. Interchangeable dies are available for producing nine different standard-sized beads on sheet stock, roll material, die-cut blanks and strips. A new Pyrometer temperature control automatically maintains dies at the most efficient operating temperature, the company reports. Thicknesses of from 0.005 to 0.020 in. can be accommodated on the new machine. Other features include an enlarged blower, tripling the capacity of the older model, and 50% increase in the length of the material guide.

NEW HEAT-SEAL CORNER STAYS
for paperboard boxes, produced by the Dennison Mfg. Co., Framingham, Mass., are designed for use on box-making machines of the Kingsbury & Davis Machine Co., Contoocook, N. H. The tape offers the advantages of a heat seal, in contrast with the water-remoistenable gummings and glue pots formerly necessary. Kingsbury & Davis make two automatic quadruple stayers using heat-seal tapes: one with operating speeds of 50 boxes per minute for large boxes and the other for small-sized boxes that operates at speeds up to 150 boxes per minute. Tapes immediately available are 60-lb. brown krafts in ¾- and ¾-in.


Now... High Speed
Heat Sealing
of PLIOFILM,
POLYETHYLENE
and other plastic
materials
AMSCO Hi-Speed
AUTOMATIC
ROTARY
Designed and built by AMSCO, the foremost manufacturer of rotary sealing machines. Special devices eliminate sticking of bag material to heated sealing rollers. 16-inch closed top pre-heater conditions bag material before entering sealing mechanism, permitting very high sealing speeds. Automatic compensation for materials of varying thickness with perfect seals every time. Floor and bench models with sealing speeds up to 550 lineal inches per minute. Range of bag sizes accommodated from 25" to 47" high, 10" to 35" thick and unlimited widths. (Sketch above shows AMSCO floor model complete with Air Extractor in conjunction with AMSCO Roller Bed Conveyor).
Write Dept. MP-6 for complete details.
Amsco
AMSCO
PACKAGING MACHINERY, INC.
51-01 48th Avenue
Long Island City 1, N. Y.

Metropolitan
Envelope Service
IMPRINTERS
FOLDING
BOXES
42 EAST 23rd STREET
NEW YORK 10, N. Y.
OR 4-3370

BAG PRODUCTS...

Send Today for Bulletin No. 29-6

Easy to Use..Low in Cost

Designed to handle bagged products with a minimum of effort at a maximum speed. Simple adjustments for height . . . tilting forward or backward enables operator to set machine at easiest position. Stainless steel trough with capacity of 200 bags. Adjustable to bag sizes. Blower keeps bag clean and free from foreign matter.

Anderson BROS. MFG. CO.

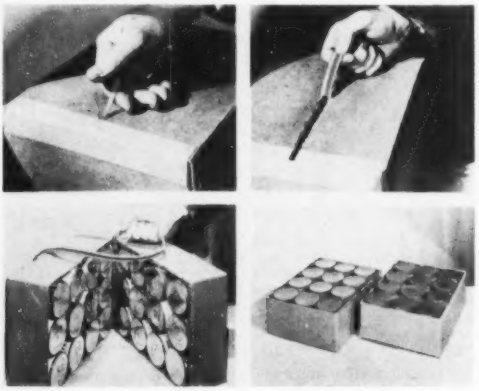
ANDERSON BROS. MFG. CO., ROCKFORD, ILLINOIS

Equipment and materials

widths and 35-lb. brown kraft in ¾-in. width. Gray and white stocks are made to order.

A COMBINATION FILLER-SEALER
designed for processing ampoules and vials by the pharmaceutical industry is being offered by Popper & Sons, Inc., 300 Fourth Ave., New York. This new Model FS-1 machine, when used in conjunction with the company Model GW-12 ampoule washer, permits the employment of a complete "mass-handling system." With the machine, ampoules can be handled in gross lots throughout the washing, sterilizing, filling, gas-flushing and sealing processes. A slow-turning unscrambler table incorporated in the new filler-sealer automatically feeds the ampoules for subsequent liquid filling, sealing, annealing and automatic ejection. Steady rates up to 50 containers per minute are reported.

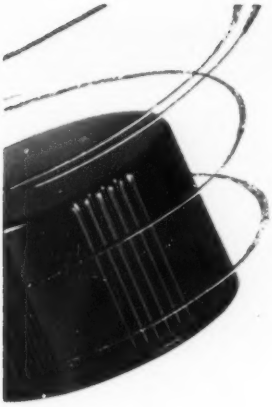
TAPING MACHINES FOR TEAR-STRIP CARTONS
are now being offered by the General Corrugated Machinery Corp., Palisades Park, N. J. All of the company's "General" taping machines are now being built to perform the pull-tab tape operations. Tapers built prior to March 15, this year, can be modified for a few hundred dollars to apply this especially tough reinforced tape, the company reports. This new method of opening sealed cartons (see "Tear-Tape Shipper," MODERN PACKAGING, March, 1953, p. 83) eliminates the dangerous, slow method of opening cartons with knives or razor blades. All the clerk does is pull on the protruding tab and the tape divides the box in half. The carton is not damaged, the merchandise remains intact and the clerk wastes no time.



Tear-stripped carton in four stages of performance.

DAYLIGHT FLUORESCENT LETTERPRESS INKS
that are reported as practical for the printing of high-speed color work have been developed by Interchemical Corp., licensee of Switzer Bros., Inc., 4732 St. Clair Ave., Cleveland 3, Ohio. The new Day-Glo letterpress ink is said to offer a new color element for high-speed printing of labels and other packaging materials.

A CASEIN ICE-PROOF LABEL GLUE
said to set very fast, have excellent water resistance even in room-temperature water, and give uniform results all year round has been announced by National Adhesives, division of National Starch Products, Inc., 270 Madison Ave., New York 18. This Ice Proof Glue 45N445 is a soft easy-spreading, slightly pasty material with sufficient flow to follow the glue wheel. It is said to work perfectly clean and to show no throwing. The glue



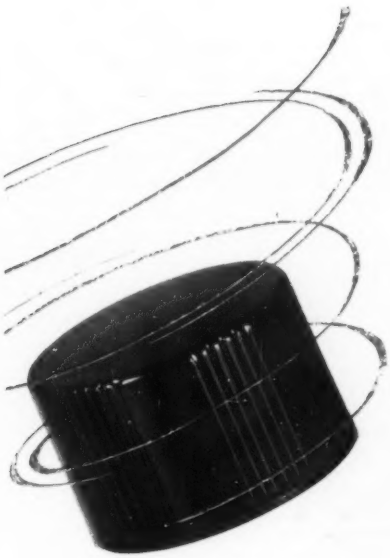
Faster Capping

"Hi-Tork" Caps are designed to take the torque and impact of high-speed machines

If cap breakage is slowing down your high-speed capping machines, try Armstrong's "Hi-Tork" Caps. These closures are specially molded to take the abuse of modern high-speed equipment. Their extra strength will permit you to speed up your lines—increase your output—with a minimum of downtime and rejects.

"Hi-Tork" Caps are designed so that dome, thread, and skirt each takes its proportionate share of stress. Extra plastic has been added at critical points, and the recessed design leaves no projections to chip or cause breakage. Re-designed thread contours give a better seal with less strain on the cap.

Test "Hi-Tork" Caps in your own plant. You'll be amazed at the punishment they'll take. For further information, call your near-by Armstrong office or write Armstrong Cork Co., Glass and Closure Division, 5306 Clay Street, Lancaster, Penna.



ARMSTRONG'S *Hi-Tork* MOLDED CAPS

Versatile

...the "Oliver" wraps and labels a variety of packages *fast!*

"Oliver" Wrappers handle widest range of packages

"Oliver" quick adjustability saves dollars every day

"Oliver" Labeling System simplifies your production

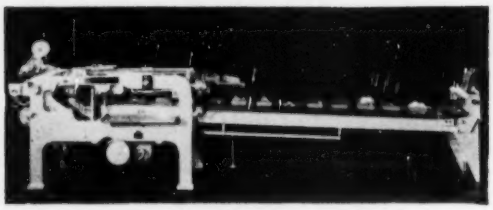
Design money-saving packages to meet your needs for distinction, variety and sales on the "Oliver."

The "Oliver" successfully wraps and labels many products: baked goods, paper specialties, textile items, boxed candies, boxed cut flowers, fresh produce and meats, etc. Using cartons, trays, U-boards, cards, or without supports, it wraps them in any heat-sealing material. "Oliver" quick-adjustability means continuous production. Operator can make a complete change for package size in a minute or two. Adjust wrapper length while machine is running. Switch from endfold to underfold instantly. Change rolls of labels in a jiffy. Also handles Kraft paper overwrap, glue-sealing endfolds and bottom seal.

Each of the 8 "Oliver" models handles packages in a wide range of sizes. Speeds up to 45 a minute. Infeed conveyors 6 to 15 feet long. Automatic cardboard folder-feeder. Electric eye register for printed wrappers . . . and many other features.

"OLIVER" AUTOMATIC LABELING SYSTEM
pays for itself quickly

A colorful diecut label from a continuous roll (printed by Oliver) is heat-sealed to the wrapper by Labeler. If desired, a "blank" label can be imprinted with essential information just before it is applied. Imprint items changeable in a few seconds.



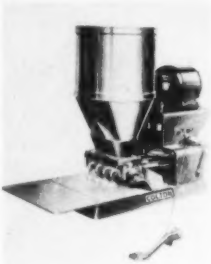
• **Write for complete details . . . and let us tell you where you can see an "Oliver" in operation!**

OLIVER MACHINERY COMPANY
GRAND RAPIDS 7, MICHIGAN, U.S.A.

Equipment and materials

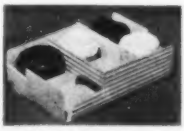
gives good mileage, the company reports, since it can be applied in a very thin, quick-setting film. The product is adaptable to all types of labels. There is said to be no shifting or displacing of labels even on short runs.

NEW MULTIPLE-NOZZLE LIQUID FILLING MACHINES designed to meet production needs ranging from the filling of fractional-capacity units of ⅛ oz. up to large-capacity jars and bottles containing several ounces have been announced by the Arthur Colton Co., Div. of Snyder Tool & Engineering Co., 3400 E. Lafayette Ave., Detroit 7, Mich. Various combinations of capacity are available in the new series of machines. Model 100 is a six-nozzle machine with a maximum fill of 0.33 oz. at 180 pans or jars a minute. No. 104 illustrated has four nozzles and fills 3.9 fl. oz. at 120 jars a minute. No. 108 has eight nozzles and fills 1.3 fl. oz. at about 200 jars a minute. Other models are available with up to 12 nozzles. The machines can be equipped to fill the same material from all nozzles or a different material from each nozzle. Containers may be fed through the machine or across the front. Standard models are for bench installation, but bases can be supplied. A 5-gal. hopper is standard equipment. Frame spacers provide adjustment for different heights of containers. All models are operated by a pedal control.



BILLBOARD END LABELS FOR BREAD PACKAGES provide more than 50% additional usable space for design than conventional labels, according to Marathon Corp., Menasha, Wis., manufacturer of the new-type labels. Until now, all end labels had to be made with the four corners notched out because of the design of the index wheel on automatic labeling equipment. Marathon has changed the index wheel of the label-attaching machines so that it pushes against a tiny flap on end edge of the label. After the label is attached, the flap folds down and is sealed with the rest of the label so the slits are scarcely visible. Any currently used labeling unit, the company reports, can be quickly and economically converted right in the bakery by plant mechanics to handle the new billboard-type labels. The illustration shows a strip of labels (right) with the tiny flaps turned up; the unmarred billboard effect of the seal when applied is shown at the left.

A NEW PARTITIONED TRAY with four, six or more partitions as an integral part of the package has been developed by Bestpak, Inc., Natick, Mass., for packaging bakery products. They may be used on any wrapping machine designed to handle a U-board type of package. The dividers keep the cellophane overwrap from sagging in the center of the package and from coming in contact with such products as tarts and filled shells of cup cakes that have a soft icing. The company, which has patents pending on the new trays, is also offering a simple jig to facilitate setting up the new trays. Bestpack trays are available in a va-



packaging news... by HARCORD

Bug Blaster's self-dispensing pump gun, has sparked increased demands for this Sherwin-Williams' insecticide. Company states that this Harcord engineered paper package is convenient, effective and has gained unusual consumer acceptance.

Field reports chart a steady rise in sales of Pratt's Crab Grass Killer. Competitively priced paper packaging by Harcord in bright red and black stressing product uses, has proven a strong factor in the sales climb. At Harcord, we feel that our attention to detail and timing has served this product well.

To combat apple scab blight, Coromerc's fungicide ranks with the best. This product, distributed by Corona Chemical Division of Pittsburgh Plate Glass, is packaged in Harcord paper canisters. We're proud to be of service to a superior product marketed by a great company.

D & P Tomato Dust, a famous fungicide, manufactured by Doggett-Pfeil Company, moved ahead to better display position as a result of Harcord's pump-gun self-dispensing paper canister. Here is a case in point where the packaging proved a boon to a good product.

HARCORD MANUFACTURING CO., INC., *PAPER CANISTERS*

125 Monitor St., Dept. MP-6, Jersey City, N. J. – N. Y. Phone: BArclay 7-5685

Best Solution for "Problem Packaging"

GIVE THIS NEW NONWOVEN FABRIC THE EYE!

If you're in the food business, a packer, a chemical processor, or other activity where you are confronted with "problem packaging", it will pay you to look into VISKON nonwoven fabrics. Chances are, your competitors already have.

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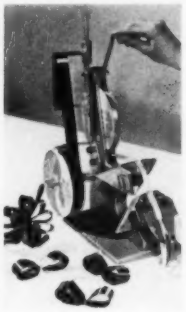
Equipment and materials

riety of papers, including greaseproof, with a choice of colors and printed designs.

A PRICE REDUCTION IN SQUEEZE BOTTLES
has been announced by Plax Corp., West Hartford, Conn. All Plaxpak polyethylene bottles, both stock and custom shapes, have been reduced by 2%.

A NEW BOW TYER
that produces prefabricated bows for decorative gift wrapping at more than 150 per hour has been announced by the Minnesota Mining & Mfg. Co., 900 Fauquier St., St. Paul 6, Minn. The new all-metal unit, called "Magic Bow" Tyer No. 8-7, is designed for retailer use in forming prefabricated hanks for pompon bows from "Sasheen" and "Decorette" brand ribbons. Each hank is formed simply by turning a handle which cranks the desired amount of ribbon around a pair of adjustable winding arms. The hank is then manually removed from the arms, cut from the roll, pul'ed down through a notcher and tied at the notch with a ready-to-use narrower strip of ribbon. The tyer, about half the size of a typewritter, can be adjusted for any size of bow from 3- to 8-in. diameter and can accommodate ribbons up to 1½ in. wide. The machine can be used with the Multi-Color Attachment No. S-8 for producing two- or three-color multicolor bows.



A NEW ELECTRO-HYDRAULIC TENSILE TESTER
known as the Model 49RC, announced by the Thwing-Albert Instrument Co., Penn St. at Pulaski Ave., Philadelphia 44, is said to be simple and rapid for routine production and quality-control work, as well as accurate and flexible for research laboratories. It has a rigid crosshead and uses strain gauges for load measurements. The hydraulic-drive system provides constant rates of elongation, infinitely adjustable on a throttle dial. Full-scale load ranges from 5 gm. to 5,000 lbs. Rates of extension from 0.1 to 20 in. per minute are standard; special ranges from 0.2 to 250 in. have been provided. Automatic cycling between extension and/or load limits is available. The electronic recorder and controls are in a separate cabinet that can be moved about. A larger size, Model 51RC, is available for load ranges to 10,000 lbs.

PAPER AND VENEER SHIPPING CONTAINERS
that combine exceptional ruggedness, light weight and long life have been developed by the Weyerhaeuser Timber Co., Springfield, Ore. The new containers, called Ply-Veneer, will be used initially for shipping fresh fruits and vegetables, ammunition and explosives, small metal parts, meat and meat products, dairy products, air cargo and plastic parts. Basic ingredients of Ply-Veneer are kraft containerboard and specially processed veneer. The veneer is

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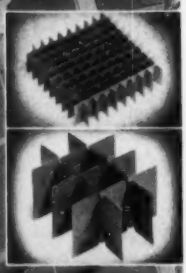

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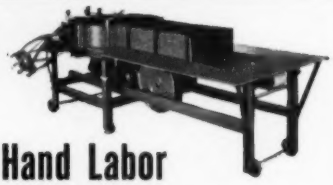
LOS ANGELES: 9118 Sunset Blvd., Bradshaw 2-7534, 2-7489



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In Feeding, Labeling and Casing

The CRCO Feeding Table will eliminate excessive labor costs by automatically accumulating and placing in a single or double line round cans, glass jars, bottles and tumblers from cases, trays, bulk carriers, conveyors, retort crates, etc., to feed subsequent operations. Available to handle any size container.

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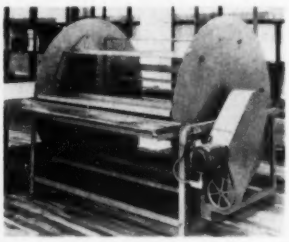
305

Equipment and materials

routed for folding, sandwiched between two sheets of glued containerboard, cut and shipped flat according to customer specifications. They are fastened either by tape, staples or nails. Some types will have wood end cleats for greater stability. Plyveneer is reported to be highly water and moisture resistant and to perform well as a cold-storage container.

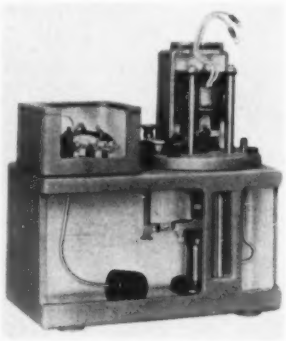
A NEW ROTARY PACKAGING TABLE

produced by J. A. Emilius Sons, 617 Fanshawe St., Philadelphia 11, Pa., is reportedly boosting production an average of 300% on installations now operating. Originally designed for the candy industry, the machine is adaptable to all packaging operations involving a variety of small items to be boxed in a single container. It serves as a substitute for line conveyors in limited-space plants or for special production on seasonal orders. A ½-h.p. motor with reducing units drives the revolving trays at a rate of one revolution in five minutes. Packaging personnel, three on each side of the unit, box the items from stock containers placed on the carrying trays. A seventh person feeds the stock containers from adjacent bins.



A NEW SOLENOID-OPERATED LUBRICATOR

announced by the Bijur Lubricating Corp., Rochelle Park, N. J., and designated as Type "E" is said to offer great flexibility of control. It can be actuated by switches tripped by rotary or reciprocating motion, existing control circuits, electric timer controls or push buttons. It can be applied to almost every type of machine and mounted in any location. No connection to a moving element of the machine is required. The unit is available with a choice of two reservoirs, 3- or 6-pt. capacity. Available as an extra is a float-switch control that can actuate an alarm when the oil is low and then, if the supply is not replenished, the switch will shut off the machine, preventing serious damage to bearings. A cut-away view of the lubricator is illustrated.



A NEW HAND-OPERATED GROSS-WEIGHING SCALE

that weighs and fills textile or multiwall bags with bulk materials such as fertilizer, feed and chemical products, has been announced by the Richardson Scale Co., Clifton, N. J. Either 50-, 80-, 100- or 140-lb. open-mouthed bags may be used with the new unit. A bag is slipped on the outlet spout of the bagger and held tightly by cam grips. A side handle, pulled down, opens a radial gate. The feed pours into the bag until it is within 4 lbs. of being filled, when the radial gate closes automatically. Exact weight is obtained by jogging the handle to allow a thin stream of material to pass through the gate into

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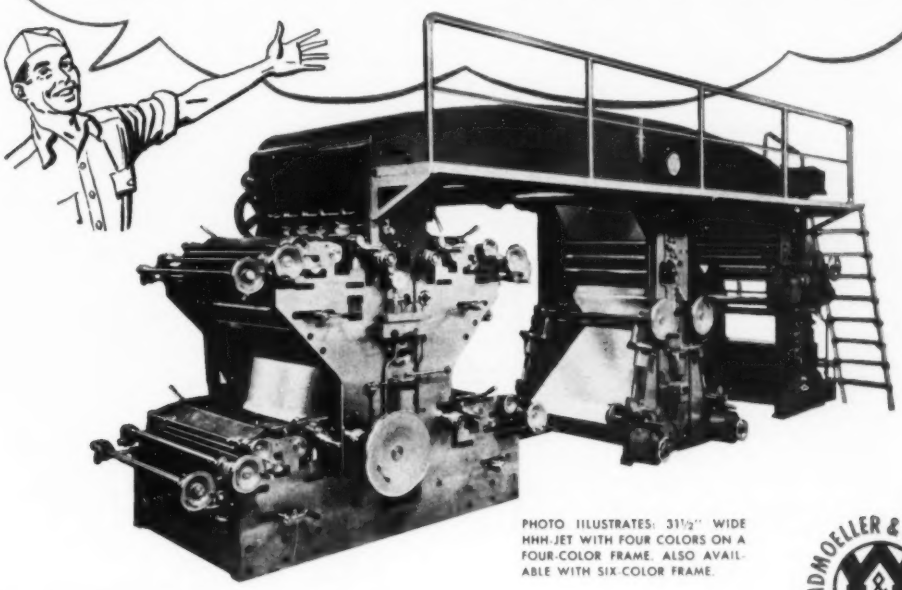

PHOTO ILLUSTRATES: 31½" WIDE HHH-JET WITH FOUR COLORS ON A FOUR-COLOR FRAME. ALSO AVAILABLE WITH SIX-COLOR FRAME.

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SINCE 1869

Hard-to-print surfaces such as Polyethylene, often present a tough printing problem to converters of flexible packaging. In addition, the cost of installing a new press, complete with all improvements, may involve an investment requiring large cash outlays.

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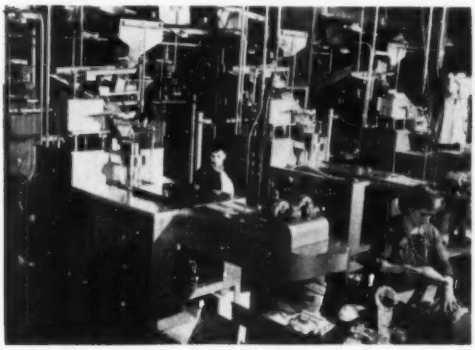
the bag. Weight can be checked on a large scale indicator on the side of the bagger.

CALLED A SLIDERLESS ZIPPER
a new kind of closure (Flextite) for plastic bags, particularly vinyl, that seals itself shut by a squeeze of a finger and is opened by lifting an extruded flange has been introduced by Flexigrip, Inc., 104 61 St., New York. The Flextite is recommended for use on transparent packages which may be opened and reclosed

Sliderless zipper package.

for customer examination, such as shirts, sweaters, gloves and other soft-goods items. It is planned as a sealing device for packaging objects requiring airtight, dustproof and waterproof containers and has already been used on a vinyl pouch for export packaging of powdered chemicals reported to have arrived at their destination without damage due to leakage or breakage. The new closure is further suggested for packaging of parts and instruments. The Flextite is the newest of a series of zipper developments that began with the company's all-plastic slide zipper, called Flexigrip, which has application on plastic containers for blankets, swim suits and other items.

FULLY AUTOMATIC POTATO-CHIP PACKAGING
is provided by the new Pace Setter machine, Model A.C.P., offered by the Packaging Machinery Division, H. C. Little Burner Co., San Rafael, Calif. The machine is said to reduce labor costs up to 68% in comparison with present packaging methods,



according to the manufacturer. Such savings are possible, it is said, because from bag pick-up through opening, weighing, filling and heat sealing—all automatic operations—the operator never touches the bags. In a typical four-machine installation, the Pace Setter requires as few as five operators to complete all operations, including carton packing. The machines come with either left- or right-hand bag feed, making it possible for one operator to tend several machines. The bags are stacked in magazines, then automatically picked up and conveyed through all packaging operations until the bags are ready to be boxed for shipment. The automatic heat-sealing unit can be furnished for

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Registers thickness to 5/16"; available with 4, 7, 12 or 18" throats. Glass covered dial is 6" diameter; graduations 1/1000ths inch.

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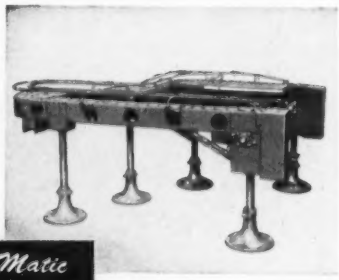

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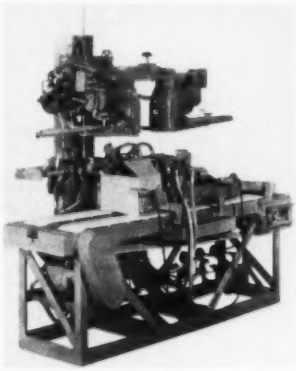
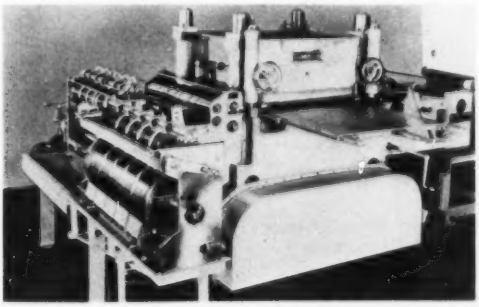
either waxed or cellophane bags, or adapted to other materials. Three models are now in production for handling the following range of bag sizes: ½ to 3 oz., 3 to 8 oz. and 9 to 16 oz. They can be furnished with a feeding hopper to connect with overhead conveyors and can also be adapted to low-level feeding systems. The multiple installation illustrated is at the Laura Scudder Blue Bird potato-chip plant in Oakland, Calif.

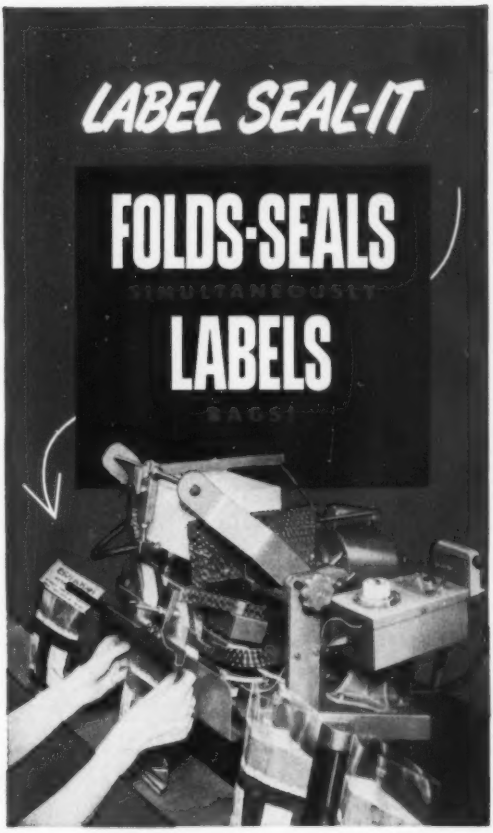
A COMPLETELY AUTOMATIC CARTON STAPLER for closing center-slotted corrugated or fibre cartons has been developed by the International Staple & Machine Co., 801 Herrin St., Herrin, Ill., for use in packaging canned and bottled beer, canned and glass-packed foods and similar products. It is designed to fit into existing conveyor systems, being built to include a conveyor belt that receives filled cartons from the main conveyor system. A trip switch actuates a device that automatically centers the carton. While the carton is being centered, it continues to move forward on the conveyor belt until it actuates a second trip switch which causes an automatic mechanism to close the end flaps, then its side flaps. Two automatic retractable anvil stapling heads then drive staples at predetermined positions along the center slot. Cartons then proceed on the machine's conveyor belt to the main conveyor system. The stapler is air operated and handles from 800 to 1,000 cartons an hour. It is adjustable to handle cartons from 5 to 11 in. high, 8 to 12 in. wide and 11 to 17½ in. long.



A NEW PLATEN-TYPE PRESS that cuts, creases and automatically strips roll-fed cardboard to make carton blanks for packaging everything from tooth paste



to crackers has been developed by Champlain Co., Inc., Bloomfield, N. J. Operating at speeds up to 100,000 sq. ft. per hr., the new cutter-creaser is said to turn out carton blanks even faster than cylinder presses and to produce higher-quality work. The machine comes in standard sizes, handles cardboard web up to 42 in. wide and cuts through 30-pt. board. It can be used either as a separate press or as part of an in-line operation with roto-



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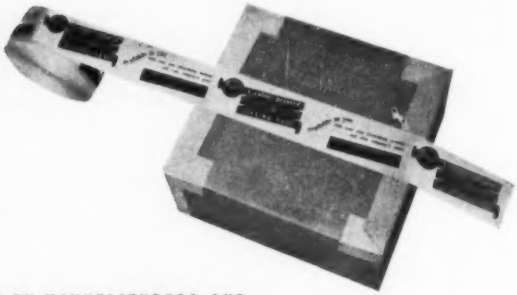

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gravure, letterpress or flexographic rotary press equipment. Features include intermittent feed with reciprocal movement of the cutting platen, automatic pin-wheel stripping, positively driven infeed rollers that accurately position the incoming web under the die, stationary lower platen that assures straight-line support of the web passing through the press, and comparatively small die-cutting area that reduces make-ready down time. Between 7,500 and 10,500 impressions per hr. can be made with the new press. The unit is built in four main sections: feed, cutting and creasing, stripping and delivery.

A NEW SMALL-AREA DEHUMIDIFIER
brought out by the Abbeon Supply Co., 179-21 Jamaica Ave., Jamaica 32, N. Y., is reported to combine maximum engineering efficiency with lowest possible cost. Called the Model #HB-53 Dehumidifier, the unit, designed for small storage areas, is said to reduce relative humidity in 8,000 cu. ft. of enclosed area from 95 to 45% r.h. If desired, the unit can be equipped with a simple plug-in automatic control.

NEW STOCK DESIGNS FOR ICE-CREAM CARTONS
available in both pint and half-gallon size, known as the 10,000 series, are printed in three colors with an exceptionally realistic dish of ice cream on the main panels. The predominant color of each package indicates the flavor, with blue being used for special. Space is provided on the main panels for manufacturer's name. Produced by the Sutherland Paper Co., 243 E. Paterson St., Kalamazoo, Mich., this new line of flavor-identification ice-cream cartons is available to all ice-cream manufacturers with territorial protection for this design. Various flavors may be combined for quantity pricing.

A SINGLE PULL-FLAP
has replaced the former double pull-flap on pint and quart linerless ice-cream cartons made by the Sutherland Paper Co., 243 E. Paterson St., Kalamazoo, Mich. The new single pull-flap is said to offer better alignment of cartons in the hopper because there is less thickness in the center and, as a result, they run more smoothly an automatic equipment. Another advantage is the saving in storage space.

A NEW RODENT-REPELLENT MATERIAL
developed by the B. F. Goodrich Chemical Co., 324 Rose Bldg., Cleveland 15, Ohio, and called "Good-rite z.a.c." may be effectively and economically incorporated into packaging materials of all types, the company reports. Several years of active testing at the Wildlife Research Laboratory, Fish and Wildlife Service, U. S. Dept. of the Interior, Denver, Colo., show that Good-rite z.a.c. (zinc dimethyl dithiocarbamate-cyclohexylamine complex) protects packaged foodstuffs from rodent attack. Most of the testing was done with standard fibreboard shipping containers. Some were coated with a dispersion of Good-rite z.a.c. and others were left untreated. Each box contained ½ lb. of ground rat food as an attractant. The boxes were then exposed to intensive wild Norway rat attack. At the end of a specified period, untreated boxes in every instance were penetrated on the first day of exposure. The coated boxes repelled the rodent attack for as long as 45 days in some tests. Similar results have been determined in tests involving multiwall bags, burlap and other packaging materials. Good-rite z.a.c. is odorless and re-

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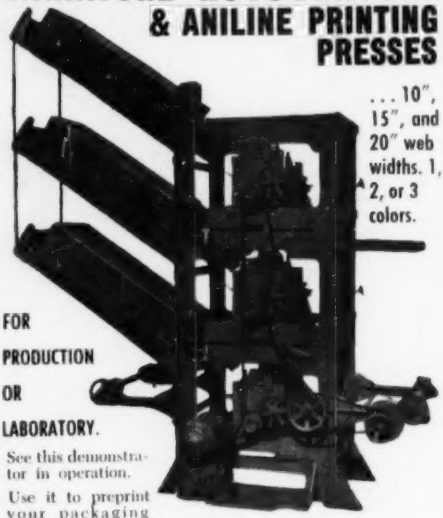

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Equipment and materials

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A NEW ARCUATE WIRE-STITCHING METHOD
introduced by the Acme Steel Co., 2841 Archer Ave., Chicago, is said to produce wire stitches that are stronger, lighter and virtually immune to buckling, while speeding carton sealing and lowering wire costs. The arc shape of the wire gives stitches higher column strengths, thus the wire can be of lighter gauge and each coil will produce a greater number of stitches. For example, by using 0.103 by 0.014-in. wire instead of 0.103 by 0.020-in. wire, a coil of the same weight will deliver 42% more stitches and save 24% of coil cost. Because arcuate stitches have higher crown and leg strengths, jamming is said to be virtually eliminated. Several stitches on top of one another will not jam the stitching machine. Operating periods are reportedly lengthened because a coil of flat wire goes further with the new method. When coils of 0.014-in. flat wire replace coils of 0.020-in. flat wire, for instance, stops for changing coils are cut almost in half. Machine down time for adjusting, servicing and repairing is considerably less. Box-liner puncturing is reduced, since arcuate wire stitches clinch properly with less compression. Tests conducted by Acme and an independent testing laboratory showed that arcuate wire stitches are equivalent in holding strength to ordinary flat wire stitches of 0.006-in. heavier gauge. These tests, the company reports, were made with the heaviest types of corrugated and solid fibreboard.

A NEW GREASEPROOF CORRUGATED
produced to meet the newly revised specification JAN-B-121, Type I, Class I, has been announced by Chippewa Paper Products Co., Inc., 2425 S. Rockwell St., Chicago 8. Called Chippewa "Grade A" corrugated, the material is available in single-face corrugated (A or B fluting) and Chippaflex flexible corrugated. Also announced by the company is a new single-face corrugated called "Chippaking" with mammoth "king-size" fluting to provide special shock resistance and insulation properties. The material can be silk-screen printed, which should be of interest in the display field.

A SMALL ELECTROMAGNETIC VIBRATORY FEEDER
designed for handling and feeding low-tonnage bulk materials has been added to the line of machinery produced by the Syntron Co., 250 Lexington Ave., Homer City, Pa. The new Model F-01 has a maximum feeding capacity of two tons per hour and is designed to handle those intermediary applications ranging between one and two tons per hour. Its electromagnetic design eliminates the use of any rotating, working parts; all action is confined to inexpensive, easily replaceable leaf springs. Regulation of the material flow is governed by a rheostat in the feeder's controller. The machine weighs 48 lbs. and comes complete with its own controller, ready for installation.

AN AIR-AUTOMATIC TAPE DISPENSER
for pressure-sensitive tapes is being manufactured by Derby Sealers, Inc., Derby, Conn., under the name Grip-A-Tab. The air-operation principle is said by the company to increase taping output and require less effort. Foot-lever operation reduces dispensing time. The air valve can be regulated to control dispen-

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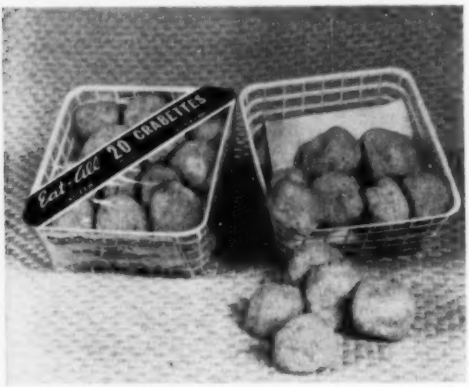

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Equipment and materials

sing power for requirements of different tapes. Model AF-92 is suited to cellophane, acetate fibre, plastic, paper and electrical-grade tapes up to 5½ in. outside roll diameters and any width from ¼ to 1 in. or multiple rolls. Adjustments can be made for any length between ½ and 5¼ in. Model AF-85 handles the same materials and in addition takes filament tapes and cloth and heavy paper as well, up to 6½ in. O.D., between ¼ and 2 in. wide or multiple rolls, with adjustments for any length between 1½ and 9 in. Multiple strokes dispense longer lengths.

A TWO-LINE FILLING MACHINE

that is said to feed, fill and cap standard paperboard tubs automatically has recently been developed for the dairy and food industries by The Filler Machine Co., Inc., Philmont Club Station, Pa. The maker reports that the unit also handles plastic and glass containers, filling cottage cheese, cream cheese and cheese spreads, sour cream, whipped butter and products like potato salad, cole slaw in ½-pt. and pt.-size containers. Speed of fill is said to be 40 containers per min., with higher speeds on similar machines also available.

A WOOD-CASE PRINTING MACHINE

has been built by The Industrial Marking Equipment Co., Inc., 454 Baltic St., Brooklyn 17, N. Y., to print the product trademark on the sides of wood beverage cases over a spray coating applied to the box after much usage. Both sides of the box are imprinted in one operation, the machine compensating for warpage in cases by the use of floating printing heads that follow the contour of the case. Speed of the double printer is 15 cases per min. or better, according to the manufacturer.

A NEW ALUMINUM FOIL CAP FOR PAPER CONTAINERS

has been added to the Econ-O-Seal line of Basca Mfg. Co., Div. of Huyler's, 2222 N. Olney St., Indianapolis, Ind. The caps are available in 8-, 12- and 16-oz. container sizes. They fit into the cap seat of the paper container reportedly eliminating air pockets and providing greater rigidity. The company offers samples and detailed specifications on request.

A NEW WEIGHING MACHINE

with a center-tower scale has been added to the Shadograph line of The Exact Weight Scale Co., Columbus, Ohio, which reports that the new model incorporates all the popular features of previous Shadograph models plus some new improvements. The scale is built with beam and poise mounted on the front for easy accessibility. Beam and indicator dial are in direct line with the operator's vision—an advantage in operations requiring frequent changes of poise setting. The unit incorporates the reflected-shadow type of weight indication. All mechanical indication is eliminated, thereby producing frictionless indication, according to the manufacturer, who claims that all possibility of parallax reading is also eliminated and that the machine will weigh true on out-of-level surfaces. Greater speed is obtained through a reduction of lever movement and by action of an adjustable damping device. The scale is available in a capacity range from 50 gm. with a sensitivity of 10 mgm., to 1500 gm. with a sentivity of 350 mgm. and can be ordered in arsenal specifications for weighing the propellants and explosives used in all types of ammunition.

A POLYETHYLENE PRICE REDUCTION

of three cents per pound for most resins and compounds is announced by the Bakelite Co., a Division of Union Carbide & Carbon Corp., 260 Madison Ave., New York 16. This will bring those base resins sold in largest volume from 47 cents to 44 cents per pound.

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Plants and people

Ira L. Sawyer has been appointed to the position of field research director by **Rhinelander Paper Co.**, Rhinelander, Wis. Mr. Sawyer, who has twenty-four years' experience in the paper field, was previously associated with the Westfield River Paper Co. in the same capacity. Mr. Sawyer's new duties will include working on new product and end use development of Rhinelander Papers in the packaging field.

I. L. Sawyer

R. E. Harper has been appointed assistant to the vice president in charge of operations. Mr. Harper will be in charge of coordinating all Rhinelander operating departments of the paper company. **Dr. William R. Haselton** has been appointed technical director of the company. Dr. Haselton is a graduate of chemical engineering from Rensselaer Polytechnic Institute and obtained his Ph.D. from the Institute of Paper Chemistry. **John D. Gaffney** has been appointed assistant technical director in charge of manufacturing control for Rhinelander.

R. E. Harper (left) and Dr. W. R. Haselton

J. D. Gaffney

Charles O. Kendall, former director of product planning for E. R. Squibb, has been retained by **Becton, Dickinson & Co.**, Rutherford, N. J., to work with the B-D Products Division in the field of packaging and package design.

Joseph E. Lang has been appointed manager of the New York office of **Stone Container Corp.**, Chicago. Mr. Lang has been associated with the eastern division of Stone Container Corp. since December, 1952.

Wolverine Paper Converting Machinery Corp. and **Nasko Machinery Corp.**, have moved to new and enlarged quarters at 18584 Fitzpatrick Ave., Detroit 28, Mich.

Wheaton Plastics Co., and the **Wheaton Engineering Corp.** have been newly formed for manufacturing plastic containers and closures and for injection molding of specialty items. Operations are under way at Mays Landing, N. J., under the direction of **Scott H. Adams.** The company's new glass aerosol containers will be produced at this site, it was reported by **Frank H. Wheaton, Jr.**, who is president of both companies.

The Container Corp. of America, Chicago, will open a new folding-carton plant at Oaks, Pa., about May 1. The building, of one-story brick and steel construction, will be located about 20 miles west of the company's Philadelphia mill. Container Corp., also plans to construct a corrugated container plant at Fernandina, Fla., adjacent to the company's kraft containerboard mill, which it expects to have in operation within a year.

Extruded Plastics, Inc., Norwalk, Conn., has merged with the **Vick Chemical Co.**, Greensboro, N. C. Extruded Plastics, which will be the ninth separate division of **Vick**, will continue to operate as it has in the past. There will be no change in the corporate name, no change in policies, operating methods, or personnel. **Charles Slaughter** will continue as president and general manager of Extruded Plastics.

Ralph W. Stearn, formerly associated with Snyder & Black, Inc., New York, lithographers, has joined the Display Div. of the **Gibraltar Corrugated Paper Co., Inc.**, North Bergen, N. J., in an executive sales capacity. **Charles G. Gerwig**, formerly sales manager of the Display Div. of the River Raisin Paper Co., Monroe, Mich., has also joined the Display Div. of Gibraltar as midwestern representative. Mr. Gerwig's headquarters will be at 30 W. Washington St., Chicago.

Robert Gair Co., Inc., New York, has announced that **James G. Van Horne, Jr.**, has been appointed sales manager, boxboard, American Coating Mills division of the Gair company. Mr. Van Horne will continue to headquarter at Elkhart, Ind.

J. G. Van Horne, Jr.

In recognition of his 50 years of service in the foil industry, **John J. Geraghty, Sr.**, president of the **Johnston Foil Mfg. Co.**, St. Louis, Mo., was honored at a dinner at which more than 100 friends in and out of the industry were gathered. Mr. Geraghty, a pioneer in the development of aluminum foil, remains the oldest active foil man in the business.

Eli Lilly & Co.'s new Production Methods and Package Development Division is now in operation under the direction of **J. E. Marmon.** Serving as manager of the new packaging materials studies departments is **Carl B. Burnside**, who will be responsible for research in and development of new packaging materials. The package design departments, of which **Richard F. Brown** has been named manager, are responsible for present packages for Lilly products as they relate to production, packaging instructions, quality of incoming packaging materials and finished packages, and complete and final package design. A third group of departments making up the division, the production methods departments, is managed by **R. Vance Thompson**, who will cooperate with the other two groups in perfecting production methods and layouts.

J. E. Marmon (left) and C. B. Burnside

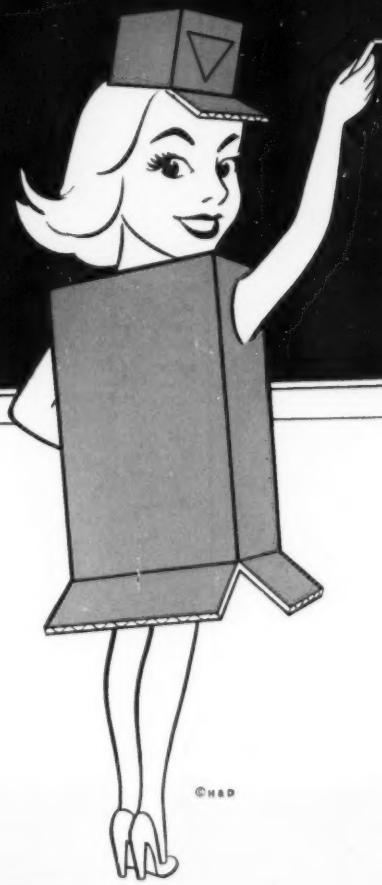
R. F. Brown

A new corporation to be known as **The Sovereign Paper Corp.** has been formed by **Fred C. Kaiser** and **Warren E. Nelson**, formerly of Keller-Dorian Corp., New York. The new firm will distribute fine and fancy papers and aluminum-foil papers.

Geveke & Co., Inc., New York, has taken over the machinery department of **Steinhardter & Nordlinger**, also of New York. Under the continued direction of **Dr. E. M. Huttrer**, the activities of the department will be expanded. Automatic packaging machines represented by this concern are Fr. Hesser, Bauermeister, Loesch, Glentco, Theegarten, Jahn and Barth.

At a recent dedication ceremony, the directors and officers of **Mead Corp.**, Dayton, Ohio, put into operation the new Mead Research Laboratories located at Chillicothe, Ohio. The new facilities will

Cora Gated



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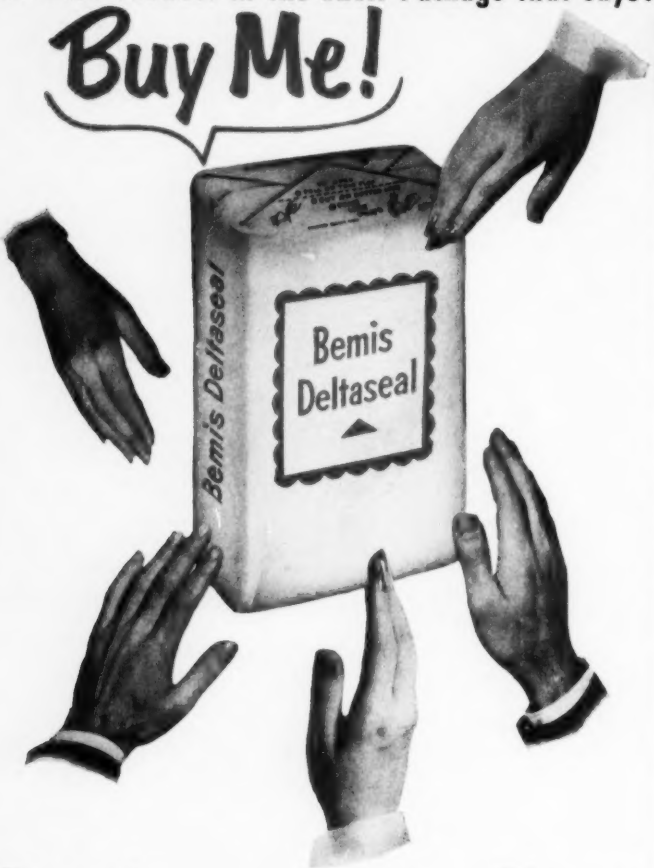

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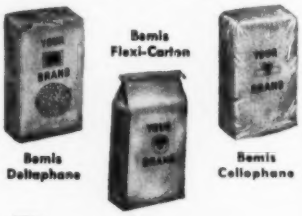

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Plants and people

serve all divisions of the **Mead Corp.** and will be under the direction of **R. H. Savage,** vice president for research; **Rudolph Griesheimer,** director of research; and **John Redd** and **Edwin Flinn,** assistant directors of research.

Acme Steel Co., Chicago, has appointed **Walter F. Hinkle** as director of engineering and research. Mr. Hinkle will also continue in charge of the company's mechanical and electrical divisions. **James N. Wognum** has been named chief engineer of Acme's new Engineering Research Laboratory at 7439 S. Ash'and Ave., Chicago.

Robert D. Handley has joined the **Transparent Package Co.,** Chicago, as manager of sales development. In this position, newly created by the company, Mr. Handley will be responsible for coordinating market research, finished package

R. D. Handley (left) and D. D. Barraca

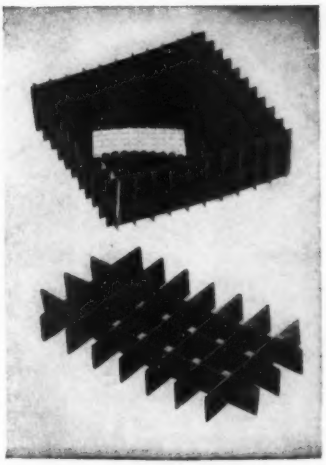
design, merchandising, advertising and promotion. Mr. Handley was previously general manager of Western Package Products in Pasadena, Calif.

Donald D. Barraca has been named assistant to **E. E. Ellies,** vice president in charge of sales for Transparent Package Co. Mr. Barraca will handle special sales assignments.

Directors of **Allen Cartons, Inc.,** Dayton, Ohio, have elected **D. Frye** as vice president in charge of production for the company. Mr. Frye, who has been with the firm for one year, was formerly with the Pollock Paper Co. and The Lindley Folding Box Co.

American Can Co., New York, has appointed **Milo M. Slayton,** formerly sales manager of the company's Tampa district office, to the newly created post of special sales representative in the Florida territory. **Cyril J. Heintz,** formerly assistant district office sales manager, succeeds Mr. Slayton as district manager.

New directors of **American Machine & Foundry Co.,** New York, are **Rodney C. Gott,** vice president of AMF, and **Murray**



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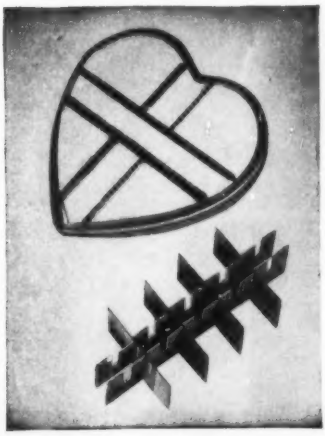


McConnel, president and director of Cuno Engineering Corp. of Meriden, Conn. Re-elected directors are: **George Arents, Arnold K. Brown, George S. Hastings, Daniel H. Haynes, George S. Hills, John W. Hooper, Knox Ide, George A. Ingalls, Russell L. Maxwell, Stanley de J. Osborne, Morehead Patterson** and **Roland P. Soule.**

K. M. Leghorn

Kenneth M. Leghorn has been elected president of the **Sun Tube Corp.**, Hillside, N. J. He succeeds **R. Smith Schenk**, who has announced his retirement. Mr. Leghorn joined Sun Tube in 1947 and has successively held the positions of director of research, assistant to the president, vice president and executive vice president.

Arkell & Smiths, Canajoharie, N. Y., has appointed **E. K. Schultz** as a sales representative of its Central Div. in the Michigan area.

Arvey Corp., Chicago, has appointed **Blair Fisher** to handle the company's Special Products Division, which specializes in point-of-purchase displays. Mr. Fisher will work under the direction of **Paul Godell**, Arvey vice president, and will headquarter in Detroit.

George E. Dean has been appointed sales manager of the Kansas City sales division of **Bemis Bro. Bag Co.**, St. Louis, Mo. Mr. Dean is a graduate flour mill engineer and has had practical experience in the milling industry. He is well known among the flour and feed trade.

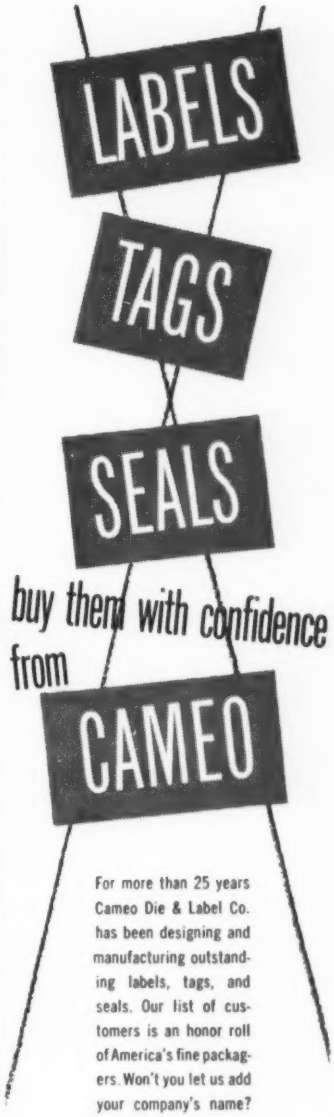
Hazel-Atlas Glass Co., Wheeling, W. Va., has re-elected **J. S. Algeo, W. W. Holloway** and **L. C. Paull** as directors of the company.

K. D. Lozier

St. Regis Paper Co., New York, has elected **Kenneth D. Lozier** as a vice president of the company. Mr. Lozier, who joined St. Regis 13 years ago, will be responsible for advertising and sales promotion for all divisions of the company. **B. W. Recknagel** has been elected assistant secretary of the board.

The R. C. Can Co. has moved into its new home office and factory at 9430 Page Ave., St. Louis 14, Mo.

The Brass Goods Mfg. Co., manufacturer of specialty items and metal closures at Deep River, Conn., has been purchased by **American Associates, Inc.**, tool-mak-



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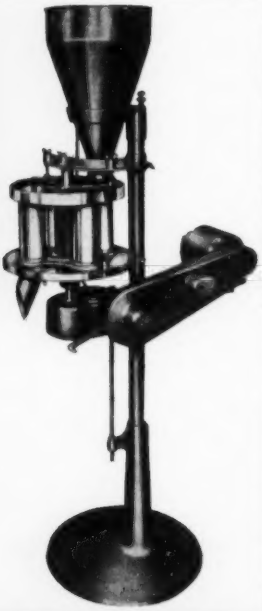

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Plants and people

ing firm at Providence, R. I. American Associates has simultaneously announced the appointment of **Flyndustries, Inc.**, of New York as exclusive sales agents for the Eastern states. Under the new ownership, operations of the Brass Goods Mfg. Co. will continue at the Deep River plant.

John G. Murray and **Peter P. Wojtul** have been elected vice presidents of **Continental Can Co.**, New York. Mr. Murray, formerly general manager of Continental's

J. G. Murray (left) and P. P. Wojtul

Bond Crown & Cork Co., will continue to head the company's operations in that field, with headquarters in Wilmington, Del. Mr. Wojtul will be in charge of sales for all product divisions, including the metal, paper container, fibre drum, crown and cork, and bag divisions.

Continental has named **George A. Thacker** as Decoware sales manager for the Central Division. **Donald L. Weir** is district sales manager in Cincinnati.

Thomas J. Hughes has been appointed district sales manager for Continental's newly created Paterson sales district, Metal Division. The new Paterson district encompasses southern New York and northern New Jersey. A district sales office is located at Getty Ave. and Thomas St., with **John P. Bertram, Jr.**, as sales office manager.

A new warehouse that will triple Continental's storage facilities at its Malden, Mass., plant is being constructed to meet the growing demands for food containers in the New England area.

Cochran Foil Co., Inc., Laminating Div., Louisville, Ky., has appointed **David W. Sargent, Jr.**, as Eastern Div. sales manager for the company's Eastern Laminating Div. Mr. Sargent will be located at 500 Fifth Ave., New York.

Dewey & Almy Chemical Co., Cambridge, Mass., has appointed three salesmen to the midwestern sales staff of its Cryovac Div. **David T. Denmead**, headquartering at the Cryovac factory in Cedar Rapids, Iowa, will serve the major pork packers in that state. **James K. Brahe**, located in the Chicago office, will

Containers that *Protect* your product ALL THE WAY

Sturdy steel drums and pails—made with care and accuracy in every detail make certain that your product quality receives protection *all* the way to its destination. They make certain that your products remain safely sealed through the various conditions of handling and shipping.

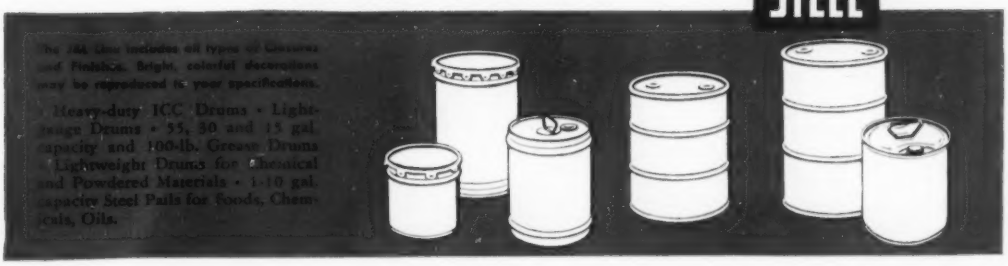
That's why J&L Steel Drums and Pails are standard packaging specifications for many leading product brands. They have proved through years of dependable service that they meet the most rigid tests for durability.

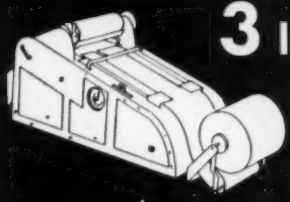
Plants for the manufacture of J&L Steel Drums and Pails are located in leading industrial centers to assure quick, efficient service to meet your requirements. Call the nearest J&L office . . . or, contact our headquarters office in New York City.

PLANTS: Bayonne, N.J. . . . Cleveland, Ohio . . . Philadelphia, Pa. . . . New Orleans, La. . . . Kansas City, Kan. . . . Atlanta, Ga. . . . West Port Arthur, Texas . . . Toledo, Ohio

JONES & LAUGHLIN STEEL CORPORATION
Container Division
CHRYSLER BUILDING • NEW YORK 17, N. Y.

J&L STEEL


Heavy-duty ICC Drums • Light-gauge Drums • 55, 30 and 15 gal. capacity and 100-lb. Grease Drums • Lightweight Drums for Chemical and Powdered Materials • 1-10 gal. capacity Steel Pails for Foods, Chemicals, Oils.



3 label problems solved by one machine in one operation

1 HOW CAN QUANTITIES OF LABELS BE PREPARED WITH THE SAME INFORMATION . . . QUICKLY AND EASILY?

Type a stencil with the information, slip the stencil on the Weber Tag-O-Graph KC-E, set the automatic counter for the number of labels needed, and press the switch. That's all you have to do to get shipping and identification labels that are printed, addressed or marked, counted and cut to size . . . at the rate of 100 per minute.

2 HOW CAN THE HIGH COST OF PRE-PRINTED LABELS BE AVOIDED?

Print your own labels at the same time you're addressing or marking them. We can die-cut your stencils, in quantity, to print any style label or form you want. Firms now using the Tag-O-Graph KC-E are saving up to ⅔ of their former label costs.

3 HOW CAN WE SYSTEMIZE LABEL PREPARATION?

Let one versatile machine do all the work. The Tag-O-Graph KC-E produces a completely prepared label. It gives you practically any size label you want in gummed or ungummed stock. It gives you the kind of labels you want, when you want them, in the exact quantity you need . . . all at a moment's notice.

SEND FOR FOLDER AND LABEL SAMPLES

If you are now using large quantities of shipping or identification labels, or if a Government contract has suddenly presented a new labeling problem, it will pay you to look into the advantages of the Weber Tag-O-Graph KC-E.

Weber Addressing Machine Co.
Label and Marking Systems Div.
240 W. Central Rd., Mt. Prospect, Ill.

Send descriptive folder on the Tag-O-Graph KC-E and samples of labels printed by this machine.

company

address

city state

name title

Weber

Addressing Machine Co.
Label and Marking Systems Division
Mount Prospect, Ill.

Stencil hand printers for fast, inexpensive addressing or marking of tags, boxes and labels.

Model K Tag-O-Graph addresses and marks 150 pre-printed tags or labels per minute.

West Coast Office:
Shannon T. Mason, Representative, Box 545 Colma Station, San Francisco 25, California

Plants and people

cover cheese, meat and poultry packers in Wisconsin and Northern Illinois. **Roderic Shearer** will hand'e sales of Cry-O-Rap bags and Cryovac packaging equipment in the Minneapolis area.

Crown Cork & Seal Co., Baltimore, Md., has appointed **Walter F. Kneip, Jr.**, as sales manager of the company's Closure Div. Mr. Kneip succeeds **L. L. Lauve**, who will continue with the Closure Div. as consultant. Mr. Kneip served as assistant sales manager of the Closure Div. from 1948 to his present appointment.

W. F. Kneip, Jr.

The facilities of the **Black-Clawson Co.**, Hamilton, Ohio, and those of **Shartle Bros. Machine Div.** at Middletown, Ohio, will shut down for two weeks for vacations and maintenance repairs from July 19 through Aug. 2.

Reinecke & Associates, design organization, has moved to new quarters at 155 E. Ohio St., Chicago. Increased space at the new location allows for the addition of a complete and newly equipped model shop, bringing the entire range of product development activities under one roof.

M. M. Schratz has been elected to a newly created vice presidency of **Aluminum Co. of America**, Pittsburgh, Pa. Mr. Schratz has been with the company for more than 43 years and has served as controller since 1947. He is also an officer and director of a number of Alcoa's subsidiaries.

M. M. Schratz

The Mechanical Div. of **Doughboy Industries, Inc.**, New Richmond, Wis., has appointed **E. G. Gehrman** as factory representative for Nebraska, Western Iowa, and South Dakota. Mr. Gehrman will handle the complete line of Doughboy sealers.

Establishment of a new gravure-printed-foil packaging department has been announced by **Schmidt Lithograph Co.**, San Francisco. The new foil department, to be known as the Schmidt-Lustour Packaging Div., was set up after agreements had been reached by Schmidt with **Lus-**

SERVICE WITH A SALE

PROTECT AND SELL
WITH H-A CLOSURES

Hazel-Atlas Glass
Company Wheeling, W. Va.

That's the function of every H-A Glass Container.

Efficient service on the production line . . . certainly.

But that's not enough. Each H-A Glass Container

is designed to display the importance of your product

and to Sell it.

THE FIRST NAME IN THE PAPERBOARD FIELD

You get "something extra" at BUTTERFIELD-BARRY

...We invite you to share the experience and facilities we have developed over the past 100 years as converters and distributors of all types of

Paperboard for Set-up & Folding Boxes

To you this will mean "something extra"—in better products, better service and greater profit... and you will enjoy that feeling of security you get when dealing with "the first name" in the paperboard field.

You can rely upon BUTTERFIELD-BARRY to extend every effort to solve your paperboard problems and give you "something extra."

100th ANNIVERSARY 1853 1953

THE BUTTERFIELD-BARRY CO., INC.

174-178 HUDSON STREET, NEW YORK 13, N. Y.

A Century of Progress in Paperboard for Packaging and Merchandising

and by the way Smedley, add another 50 cartons of ***Trojan IMPERIAL*** *Gummed Tape to that order! the shipping department says it's perfect!*

Call Your Paper Merchant

THE GUMMED PRODUCTS COMPANY • TROY, OHIO

Plants and people

tour Corp., St. Louis, Mo., manufacturers of rotogravure foil labels. Sales for the new division will be directed by **R. E. Burkett, Sr.**, and his son, **R. E. Burkett, Jr.**, who will handle foil packaging sales through all of Schmidt's Western branch offices.

J. B. Merrill

J. Bryce Merrill has joined the sales force of the New York office of the **Battle Creek Wrapping Machine Co.**, Battle Creek, Mich. Mr. Merrill will be associated with **Arthur H. Axberg**, who has been in the New York territory for the past 30 years.

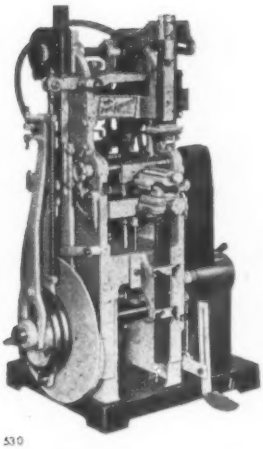
Farrington Mfg. Co., Boston, manufacturer of jewel cases and display packages, has appointed **Edmund P. Ludwig** district manager of the New York territory. Mr. Ludwig is assuming the duties previously performed by **Robert G. Lewis**, who has resigned.

Charles F. Van Sweringen, who opened a manufacturer's sales agency for New Jersey and New York last year in Hackensack, N. J., has added two new lines of packaging equipment to his agency: **The General Machinery Corp.'s** automatic fin-seal flat-pack wrapper and the **Holm Automatic Scale & Mfg. Co.'s** net-weighing and filling machine.

Mr. Fessenden

The Ace Carton Corp., Chicago, manufacturers of folding paper cartons for sales and displays, marked its 25th business anniversary recently with a dinner attended by all company employees. Original incorporators of the business were **Ace C. Fessenden**, now president of the firm; his brother, the late **Maynard G. Fessenden**; **Michael Lambert**, now a vice president, and **Emory Smith**, company secretary. The company has operations in White Pigeon, Mich., and in Mexico City, in addition to its Chicago Plant.

Frederic Remington has been re-elected president of the **Peerless Tube Co.**, Bloomfield, N. J. This will be Mr. Remington's 23rd term as head of the corporation. Other re-elected officers of the company are: **Theodore W. Schmitt**, director, vice president and sales manager;



530

HOW? By utilizing vacuum in a critical stage of your packaging.

All the care lavished on selecting appropriate containers, perfect closures and attractive labels for carefully made products,—the components that reflect Quality, can be nullified by neglecting precision labeling.

When your product meets the eye of the buyer, every label should be exactly in its proper position,—in intimate *permanent* contact with its container. This is *mechanically assured* by use of vacuum to do the label-handling, guaranteeing positive label-feeding, uniform adhesion and accurate label placement.

To do this, you need a PONY LABELRITE®

Why not ask for proof?

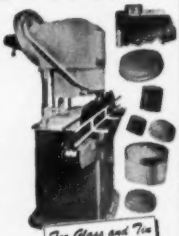
NEW JERSEY MACHINE *Corporation*

AUTOMATIC LABELING • PACKAGING — PAPER BOX MACHINERY • MAKERS OF THE PONY LABELRITE

FACTORY SALES AND SERVICE BRANCHES
325 W. HURON ST., CHICAGO 10, ILL.
1701 CAREW TOWER, CINCINNATI 2, OHIO
2500 W. 6TH ST., LOS ANGELES 5, CAL.

MAIN OFFICE & FACTORY: 1510 WILLOW AVENUE, HOBOKEN, N. J.

MODERNIZE
SCREW CAPPING OPERATIONS
with the
FULLY AUTOMATIC
"TITE-CAP"
SCREW CAPPER



For Glass and Tin Metal and Plastic Screw Caps

Sumbit Sample Containers and Caps for Prompt Introduction to A Gilt-Edged Investment!

- Quick Change-Overs; Easy Adjustments.
- Trouble-Free; Any Handy-Man Services It.
- Performs the Work of 2 or 3 Men.
- Increased Output, Automatic Operation, Pay for the "TITE-CAP" in about 6 months.
- New Hopper Handles Large Variety of Caps.
- Models for all Types of Capping Operations including Special Closures, Inner Seals, Lids, Plugs, Etc.

TITE-CAP MACHINE CO. INC.
56 Rose St., New York 38, N. Y.

"SCIENTIFIC"
portable
SEMI-AUTOMATIC STRAIGHT LINE
VACUUM FILLER

- Fills Directly from Drum; No Overhead Tanks Required.
- Vials to Quarts, Glass or Tin.
- Up to 10 Spouts for Small Containers.
- Quick Change-Overs. Cleans Itself. 5 Minutes.
- ONLY ONE OPERATOR for Loading and Filling.
- LOW PRICED BENCH and STAND MODELS.

Actually Pays For Itself In A Few Weeks Writ. for FREE TRIAL OFFER

Whirlwind
SCREW CAPPER

- Replaces Uncertain Hand Capping; Eliminates Fatigue and Worn-Out Fingers. ANY CAP—ANY CONTAINER—PERFECT SEALING!
- Adjustable Tension Device Controls Cap Tightness.
- Portable, Flexible, Fast; Easy to Operate.

CAN YOU AFFORD TO BE WITHOUT IT?
ACT NOW! Send Sample Caps For FREE TRIAL

SCIENTIFIC FILTER CO.
56 Rose St., New York 38, N. Y.

Plants and people

Franklin P. Russell, director and treasurer; and **Nathalie Ann Hetzel**, director and secretary.

W. F. Wilson has been elected president of **Anchor Cap & Closure Corp. of Canada, Ltd.**, Toronto, Ont., subsidiary of **Anchor Hocking Glass Corp.**, Lancaster, Ohio. **F. C. Maywood** will succeed Mr. Wilson in his former position as sales manager. **R. P. Herrold** was elected chairman of the board and **H. E. W. Filmer** was elected secretary of the Canadian firm. **C. A. Geddes** will continue as vice president and **E. H. G. Secker** will be treasurer and assistant secretary.

W. F. Wilson (left) and F. C. Maywood

Mr. Filmer

Minerva Wax Paper Co., Minerva, Ohio, has put into operation a new 84-in. waxing machine. This unit, a product of the **Black-Clawson Co., Dilts Machine Works Div.**, Fulton, N. Y., will augment the production of high-quality waxed paper products including bread wrappers, waxed kraft, household rolls and candy wrappers.

National Container Corp., New York, is opening a new converting plant this month in Memphis, Tenn., to produce shipping containers. **A. Lee Gordon, Jr.**, has been appointed general manager and **A. Arthur Halle, Jr.**, will serve as sales manager. This is the company's 16th converting plant.

Theron T. Collins, Jr., has been appointed technical director of National Container. Mr. Collins has been engaged in pulp and paper mill research for the past nine years.

Richard O. Spalding has been named coordinator of corrugated operations for **Owens-Illinois Glass Co.**, Toledo, Ohio. Chief packaging engineer since July, 1952, Mr. Spalding will now be responsible for coordinating the over-all activities of the company's eight package-manufacturing units and package laboratories. **John D. Northup**, former supervisor of corrugated operations, has been promoted to director of engineering. **F. William Wallis**, formerly at Alton, Ill., succeeds Mr. Spalding as chief packaging engineer.

Plans for construction of a large glass plant in Atlanta, Ga., adjacent to the site where the company is presently building a new warehouse, have been announced by Owens-Illinois.

Andrew M. McBurney has been elected vice president, sales, for **Oxford Paper Co.**, New York, and **Oxford Miami Paper Co.**, West Carrollton, Ohio. Mr. McBurney was formerly general manager of sales for both companies.

Lawrence K. McGrath has been appointed to Oxford's western sales organization in Chicago. He will sell products of the company's Rumford, Me., and West Carrollton, Ohio, mills in the western area.

Peerless Roll Leaf Co., Inc., Union City, N. J., and **Gane Bros. & Lane, Inc.**, Chicago, have entered into an arrangement under which Gane Bros. will take over the Peerless sales and service functions in the midwestern territory. **Leslie S. Simmonds**, in charge of the Peerless Chicago office, will join Gane Bros. as manager of their newly formed Peerless Roll Leaf Div. With him will be **Steve Ingoldsby** and other members of the Peerless midwestern office.

Sutherland Paper Co., Kalamazoo, Mich., has appointed **E. A. Harrison** as an eastern sales representative. Mr. Harrison has been given a New York territory.

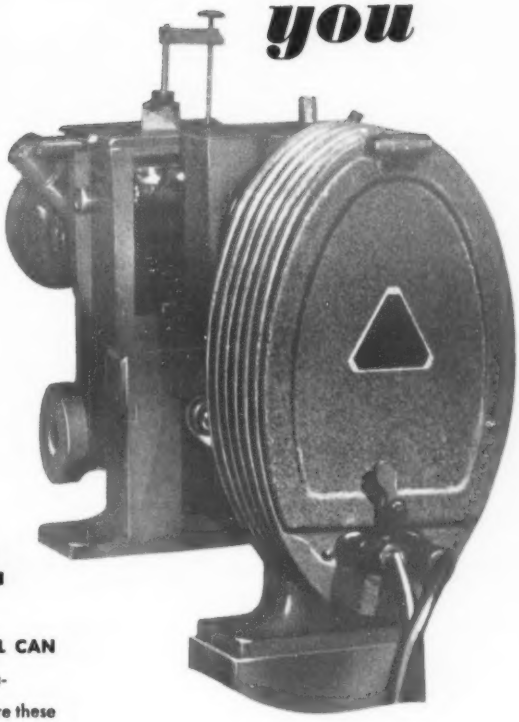
E. A. Harrison

Rex Paxton, formerly sales manager of the paraffined carton division, will assume new duties with Sutherland in the public relations field. **L. J. Moore** has been named to succeed Mr. Paxton as sales manager of the paraffined carton division.

Reynolds Metals Co., Louisville, Ky., has appointed **John Staley** as project director in the company's product and market sales development department.

Crown Can Co., Philadelphia, Pa., has announced that **Robert A. Foresman, Jr.**, formerly senior aerosol chemist in the company's research department, has undertaken the formation of a consulting service for those interested in any phase

he works for you



Benjamin B. Lipsko — Director of the Laboratory has worked for YOU at National Can for more than 23 years.

at NATIONAL CAN

Typical of **NATIONAL CAN** service . . . in the laboratory and on the line—are these photomicrographic studies of the grain structure of steel and tinplate, of side seam and double seam construction. These studies assure you a better canning operation. Typical **NATIONAL CAN** service . . . where it counts!

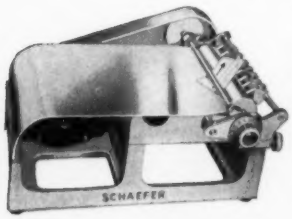
NATIONAL CAN CORPORATION

PLANTS AT:

BALTIMORE, MD. • CHICAGO, ILL.
MASPETH, N. Y. • HAMILTON, OHIO

for short runs or production

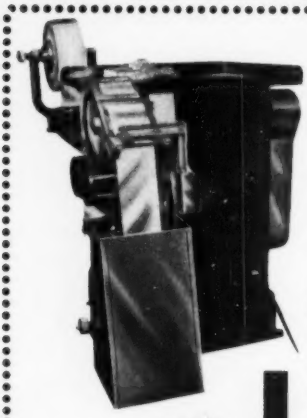
a Schaefer labeler for the job.



Whether your labeling needs are short runs or production, Schaefer Labelers can save you approximately 35% labor time. Glue round, square or die-cut labels neatly—no glue ooze at edges. Printing stays clean. Easy to operate, no skilled labor necessary.

for BOXES - BOTTLES - CANS - PACKAGES

SCHAEFER MACHINE COMPANY, INC.
55 CARBON STREET, BRIDGEPORT, CONNECTICUT
Tels: BRIDGEPORT - 68-2250 • NEW YORK CITY - LE 2-2010 • BOSTON - ARLINGTON 5-8096
AGENTS IN PRINCIPAL CITIES.



WRAP-ADE UNIT PACKAGER

A VERSATILE SEMI-AUTOMATIC MACHINE FOR PACKAGING ALMOST ANY SMALL ITEM!

Here is a low cost, high speed machine which eliminates expensive bagging operations. It packages almost any small item up to 6" x 12"—such as hardware products, plastics, bandages, etc. in a completely heat sealed package. It has been built on the simplest possible principles conducive to high speed packaging, versatility, and low upkeep costs.

SAMPLE PACKAGES

Send us a sample of your product today for our prompt quotation. You will be surprised to see how much you can save!

ALSO AVAILABLE: Automatic Unit Packager with greater capacity.

wrap-ade **MACHINE CO., INC.**
Manufacturers of Packaging Machinery for over 20 yrs.
83 VALLEY STREET, BELLEVILLE 9, NEW JERSEY
PHONE—PLYMOUTH 9-6150

Plants and people

of the aerosol industry. The permanent address of the laboratory and offices now under construction will be 1690 Margaret St., Philadelphia, Pa.

B. Richard Whitehill has been named general manager of the **Cheslam Corp.**, a newly formed division of **Chester Packaging Products Corp.**, both of Yonkers, N. Y. The subsidiary specializes in the research, production and sales of Cheslam laminates, combinations of extruded Cheslene polyethylene with other flexible materials including transparent films. **Winfield E. Channing** has been appointed sales and promotion manager of

B. R. Whitehill (left) and W. E. Channing

Chester Packaging Products Corp. Mr. Channing will direct sales of Cheslene polyethylene film to packaging converters. He will also supervise distribution of Chester's new treated film, Cheslene TF, recently introduced at the National Packaging Exposition. The surface of this polyethylene film is treated to assure printability with greater ink adhesion and increased resistance to rub-off.

A. E. Staley Mfg. Co., Decatur, Ill., corn and soybean processor, has appointed **Tronie A. Bailey** as senior technical representative to work with the corrugating industry. Mr. Bailey was formerly a chemist with the Inland Container Corp. at Indianapolis.

A. W. Gaulke has been appointed sales engineer of **Vanant Co., Inc.**, Milwaukee, Wis., manufacturers of Sus-Rap. Mr. Gaulke will specialize in the development and sales of fragile item packaging.

At a meeting of the board of directors of **International Paper Co.**, New York, **Arthur L. Ross**, assistant general manager, Southern Kraft Div., was elected a vice president of the company. A veteran of 28 years with International, Mr. Ross was appointed assistant general manager of the Southern Kraft Div. last August after having served since 1939 as production manager of the company's nine pulp and paper mills in the South.

Tri-State Plastic Molding Co., Inc., Henderson, Ky., has announced a plan to reduce sharply the costs of shipping and warehousing plastic packaging for volume users. The company is now prepared to set up branch molding plants almost at the doorstep of customers whose demand warrants it. The plants will produce all-plastic packaging as well as plastic closures for fibre and metal containers. The installation may be for as long a period as the customer requires, but not less than one year.

Milprint, Inc., Milwaukee, Wis., has won an award of merit in the nationwide Associated Business Publications contest for effective business-paper advertising. The award praises the printing and packaging

I. A. Baker (left) presents Milprint award to R. W. Lundberg

firm for its "particularly effective use of color and copy." Milprint produces its own colored inserts.

Walter J. Hullinger has been promoted to assistant general sales manager for Milprint's midwest territory. Mr. Hullinger has had 16 years of experience and specialization in the packaging of food products. He will transfer from the Iowa territory to headquarters in Milwaukee.

E. B. Leonhard has been elected president of the **Paterson Parchment Paper Co.**, Bristol, Pa. Mr. Leonhard, first associated with Paterson in 1920, had been serving as vice president in charge of sales prior to his recent appointment.

Mr. Leonhard

Arthur L. Smith has been appointed general sales manager of Paterson Parchment's eastern and midwestern sales territories. He will divide his time between the general offices in Bristol and the New York office.

Formation of a new company, **O'Hara-Rowan Associates**, located in the Bassett Bldg., 382 Springfield Ave., Summitt, N. J., has been announced by **Harry F. O'Hara** and **Edward W. Rowan**, former

(This article continued on page 202)

Did YOU forget the "SALT"?
CAR LOADING
INGREDIENTS FOR PERFECT SHIPPING
• Clean and prepare car carefully
• Make detailed loading plan
• Use efficient banded block load pattern or other preved method of unitizing
• Bulkhead and brace adequately
• Check continuously for tight load
• Use suitable dividers between sections of different size cases
• CUSHION END-WALLS with heavy PROTEX blankets to absorb shock
• CUSHION FLOORS or RACKS with PROTEX blankets to protect load against snagging
The proper mixture of the above will give perfect results only if that final bit of seasoning, called cushioning, is added. Without it, end crushing, floor snagging and resulting saw-toothing of containers with its accompanying damage is sure to occur even with normal handling.
AMERICAN EXCELSIOR CORPORATION
PROTEX
CHICAGO ILL
Superior Cushioning
BLANKETS FOR
CUSHIONING FLOORS. PROTEX blankets will take the snag out of the roughest floors and floor racks and more than that, they absorb vertical shock and oscillation.
CUSHIONING END WALLS. The tightest load will normally shift from 5" to 7" from end to end. PROTEX blankets cushion this shock indefinitely.
The application of PROTEX Superior Cushioning Blankets is simple and will cost no more and probably less than your present methods.
Consult us — on how to virtually eliminate telescoping, snagging and crushing of bottled and canned goods shipments. PROTEX blankets more than pay for their cost in damages saved.
AMERICAN EXCELSIOR CORPORATION
1000 North Halsted Street • Chicago 22, Illinois
NATIONWIDE SALES & DISTRIBUTION

weigh this solution to your packaging problem

Self-Seal tips the scales in favor of SPEED • EASE • ECONOMY

Cut packaging costs up to 50%; reduce packaging operations to two split-second actions — *Insert* then *dry seal* with a touch of the finger . . . That's all. No moisture, staples, clasps or other costly, time consuming operations. Self-Seal envelopes have been proved in use by leading firms as a solution for the packaging of a wide variety of products including drills, paint brushes, auto parts, electrical fittings and countless other items. All sizes, all shapes, for all jobs. There's even a special Dubl-Grip version for bulky first class mail. Write today for samples.

SELF SEAL.

Heavy-duty dry seal ENVELOPES

UNITED STATES ENVELOPE COMPANY • SPRINGFIELD 2, MASS.

World's Largest Manufacturer of Envelopes — 14 Plants from Coast to Coast

Another Money-Saving Idea . . .
Columbian.
SNAP ENVELOPES
can be opened and closed indefinitely. Exclusive, wafer-thin snap closure won't wear out.

1. SELECT the items you want
2. CIRCLE the corresponding numbers on the post card
3. FILL IN the information requested
4. MAIL — no postage required

HELPFUL LITERATURE FREE

There is valuable data — worth dollars and cents to you — in the literature and samples described below.

EQUIPMENT • SUPPLIES • SERVICES

STRETCHABLE PROTECTIVE PACKAGING MATERIALS. Brochure describes a wide range of packaging uses for two Kraft products —"Corrucrepe," creped and corrugated for stretch in every direction, and "Elastikraft" deep-crinkle creped for flexible utility protection. May be used as interleaving, cushioning, barrel liners, etc. Cincinnati Industries, Inc. **(F-351)**

TEXTILE WRAPPING MACHINE. Data on a "Universal 6" machine for wrapping a wide range of textile products on flat cards, trays, in cartons, or without any support at all. Includes specifications and data on labeling and registration devices. Package Machinery Co. **(F-352)**

BAG MAKING MACHINES. Folder illustrates and describes Roto Bag machines for making flat, gusseted, and square single-wall and duplex bags from polyethylene, pliofilm, cellophane, and other sheet or tube materials. Roto Bag Machine Corp. **(F-353)**

ROUND CONTAINER LABELING. Bulletin for packagers who apply paper labels completely around tin cans, glass jars and bottles, and similar packagers. Information on label applying equipment, equipment suppliers, and suitable adhesives. Paisley Products, Inc. **(F-354)**

CARTONING MACHINES. Folder shows a variety of fully automatic and semi-automatic continuous motion cartoning machines for handling products of different sizes and shapes. Standard-Knapp, Div. of Emhart Mfg. Co. **(F-355)**

SEALERS AND LABELERS FOR BAGS. Folder illustrates and describes various automatic, semi-automatic and manual machines for sealing cellophane and similar bags, and for applying labels to them. Globe Heat-Seal, Inc. **(F-356)**

PHOTOGRAPHIC PREPARATION OF SILK SCREENS. Two bulletins explain how to use Kodak "Ektagraph" film for rapid preparation of silk screen printing screens from line or continuous tone copy. Eastman-Kodak Co. **(F-357)**

AUTOMATIC PACKAGING MACHINES. Data on the operation of Clybourn machines for automatic bag filling and sealing, for filling and sealing lined cartons, for filling powder products, and for loading and sealing tuck-end cartons. Clybourn Machine Corp. **(F-358)**

CELLULOSE FILM. Five informative leaflets which discuss the fading of printing ink, and the use of regenerated cellulose film for the direct wrapping of jellies, candies, and dates, and for the packaging of metal products. British Cellophane, Ltd. **(F-359)**

AUTOMATIC TAPING MACHINE. Bulletin gives details on a new machine which automatically applies any standard width gummed tape to cartons as they come through a conveyor line. Particularly well adapted to brewery cartons. Wagner Iron Works. **(F-360)**

DRY LABELING ON DIFFICULT SURFACES. Details about the operation of the Lakso labeler for applying thermoplastic dry labels to hot, cold, wet, or dry surfaces such as polyethylene, wax paper, aluminum, fibreboard, etc. The Lakso Co., Inc. **(F-361)**

ADJUSTABLE CORRUGATED CARTON MACHINE. Details about the economies and advantages of the "Rite-Size" box machine for manufacturing a wide range of different size corrugated cartons with minimum set-up time and expense. Colt's Mfg. Co. **(F-362)**

PREPACKAGING PRODUCE IN POLYETHYLENE BAGS. Booklet explains the importance of ventilation in produce packaging, recommends bag sizes for various fruits and vegetables, and gives procedure for proper refrigeration. Durethene Corp. **(F-363)**

TESTING CORRUGATED BOXES. Explanation of the various tests given corrugated boxes in order to predetermine their protective characteristics under actual shipping conditions. The Hinde & Dauch Paper Co. **(F-364)**

GUMMED CORRUGATOR'S TAPES. Test samples and specifications of 16 different "Sure-Hold" gummed tapes for use in assembling corrugated cartons. Includes clay filled cloth tape, fiber reinforced mold-proof tape, colored tape, and glass fiber reinforced "Rhino-Tape." Nashua Corp. **(F-365)**

FACTS ON CELLOPHANE. Leaflet describes the history, manufacture, and packaging functions of cellophane film. Explains the various types and weights made for each segment of the flexible packaging industry. Sylvania Div., American Viscose Corp. **(F-366)**

75-POUND CAPACITY SCALES. Data on "Shadowgraph" and mechanical-indicating precision weighing scales with a 75-pound capacity range. The Exact Weight Scale Co. **(F-367)**

POWDERED MILK PACKAGING EQUIPMENT. Information on, and diagrams of machines for packaging dry milk powders in individual-size and family-size rectangular lined cartons and in glass jars of various sizes. Pneumatic Scale Corp., Ltd. **(F-368)**

HOT STAMPING PRESS. Specification sheet on the "Kensol 35," a basic hand operated hot leaf stamping and embossing press for stamping designs and lettering in gold and various colors on all sorts of materials. Olsenmark Corp. **(F-369)**

MEAD COATED PAPERS. Portfolio contains samples of the complete range of Mead coated papers with examples of black and white and four color line and half-tone printing on nine different varieties. Mead Sales Co. **(F-370)**

AUTOMATIC WRAPPING MACHINES. Bulletin explains the features of Hayssen automatic wrapping machines for bacon, wieners, sausages, and other similar products. Hayssen Mfg. Co. **(F-371)**

FOLDING CARTON STYLES. Booklet illustrates 34 different styles of folding carton construction plus several additional patented variations. Check list of points to be considered when developing and ordering cartons. Robert Gair Co., Inc. **(F-372)**

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"FLOCK NOTES." Booklet discusses the manufacture and application of flock made of various fiber materials, application equipment, and suitable adhesives. Covers application methods, and describes the application equipment made by various manufacturers. Claremont Waste Mfg. Co. **(F-373)**

"SHEFFIELD PROCESS" COLLAPSIBLE TUBES. Booklet covers the manufacture, sizes and styles, decorating, coating, filling, and shipping of collapsible tubes with special emphasis on the "Sheffield Process" to achieve a maximum of pliable toughness. The Sheffield Tube Corp. **(F-374)**

STOCK PLASTIC BOXES. Folder illustrates 29 stock plastic boxes which are available in small or large quantities without mold cost. Bradley Industries. **(F-375)**

AUTOMATIC CARTON BLANK STRIPPER. Details on the operation of a device for use with the Miehle Cutter and Creaser which automatically strips front, side, and tail trim, and internal scrap from die cut carton blanks. Miehle Printing Press & Mfg. Co. **(F-376)**

DOUBLE EMBOSSER. Details on the Dilts double embosser which enables changeover from one embossing pattern to another in a matter of minutes. Dilts Machine Works, Div. Black-Clawson Co. **(F-377)**

DIE CUTTING AND EMBOSSING PRINTING PRESS. Bulletin describes a versatile press that blanks, stamps, die cuts, creases, and embosses, and which also does color printing on all paper stocks from light board to heaviest board. The Chandler & Price Co. **(F-378)**

FIBER REINFORCED WATERPROOF PROTECTIVE PAPER. Data on Thilco "Wrap-Dri" Type MR, a fiber reinforced kraft-asphalt-kraft combination which is tough, strong, puncture resistant, pliable, and MVT protective, and may be used for covers and shrouds, crate and case liners, unitized loading, and other protective packaging functions. Thilmany Pulp & Paper Co. **(F-379)**

FILLING MACHINES FOR FREE FLOWING PRODUCTS. Data on rotary "Whiz-Packer" filling machinery for handling containers with restricted openings, for filling products requiring settling in a tight pack, and for eliminating product dusting. Frazier & Son. **(F-380)**

"ALCOWAX." Description of the chemical and physical properties of "Alcowax," a low-molecular weight material which is resistant to water and chemicals and may be used for coatings for paper and containers. Semet-Solvay, Div. Allied Chemical & Dye Corp., **(F-381)**

GLUERS AND CEMENTERS. Bulletin explains the operational features and uses of Schaefer machines for applying various types of gums, glues, and cements to paper, leather, cardboard, cloth, and other sheet materials. Schaefer Machine Co. **(F-382)**

ELECTRONIC SEALERS. Bulletin describes "Thermatron" electronic sealing units for use on acetate, vinyl and other thermoplastic sheet and film materials. Radio Receptor Co., Inc. **(F-383)**

PREPARING COPY FOR FLEXOGRAPHIC PRINTING WITH RUBBER PLATES. A guide for the artist who has to prepare positive and reverse black and white, and color copy for flexographic printing with curved rubber plates. Mosstype Corp. **(F-384)**

TESTING POLYETHYLENE BOTTLES. An explanation of several tests prospective users should make before deciding on the suitability of "Millsplastic" polyethylene bottles for packaging their product. Elmer E. Mills Corp. **(F-385)**

GLUE DISPENSER FOR MAKING WATERPROOF CASE LINERS. Data on the use and operation of the "Fibro" hand glue dispenser for making waterproof case liners with light or heavy specification JAN-P-140 waterproof glue. Fibleco-Illinois Corp. **(F-386)**

BEMIS "QUANTACOLOR" BAGS. Booklet explains the "Quantacolor" method for selecting the most suitable combination of colors for a package, and its relationship to Bemis service. Bemis Bro. Bag Co. **(F-387)**

REINFORCED WATERPROOF PAPER. Folder describes "Glass-wrap" waterproof paper reinforced with non-detericrating glass fibers which resist tear from all directions and which has parallel reinforced edges. Meets JAN-P-125 (E-1, E-2, E-3). Angier Corp. **(F-388)**

"CORRUGATIONS." House organ features several interesting articles on how this corrugated carton manufacturer met the needs of various clients for shipping containers and displays. Stone Container Corp. **(F-389)**

MULTI-WALL SHIPPING SACK. Description of "KRAFT-lok" valve-type gusseted bags, for packaging free-flowing granular or pulverized materials, in which an integral sleeve replaces standard inserts and sleeves for cleaner filling and tighter closures. Kraft Bag Corp. **(F-390)**

GUMMED SEALING TAPE. Report on tests of the efficiency of various carton closure methods. Data on the advantages of using gummed tape. The Gummed Industries Association, Inc. **(F-391)**

STARCH FOR PAPER MAKING. Folder describes a number of types of starch used in the paper industry for paper making, coating, and converting. National Starch Products. **(F-392)**

CELANESE ACETATE SHEETING AND FILM. Brochure gives sizes, colors, physical and thermal properties, formulations, applications, and forms in which Celanese acetate sheeting and film are available. Celanese Corp. of America. **(F-393)**

PACKAGING IN SARAN. Folder illustrates a number of food products which are successfully packaged in saran plastic film. Points out various advantages. Dow Chemical Co. **(F-394)**

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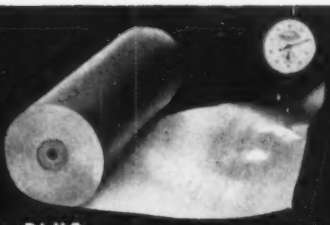

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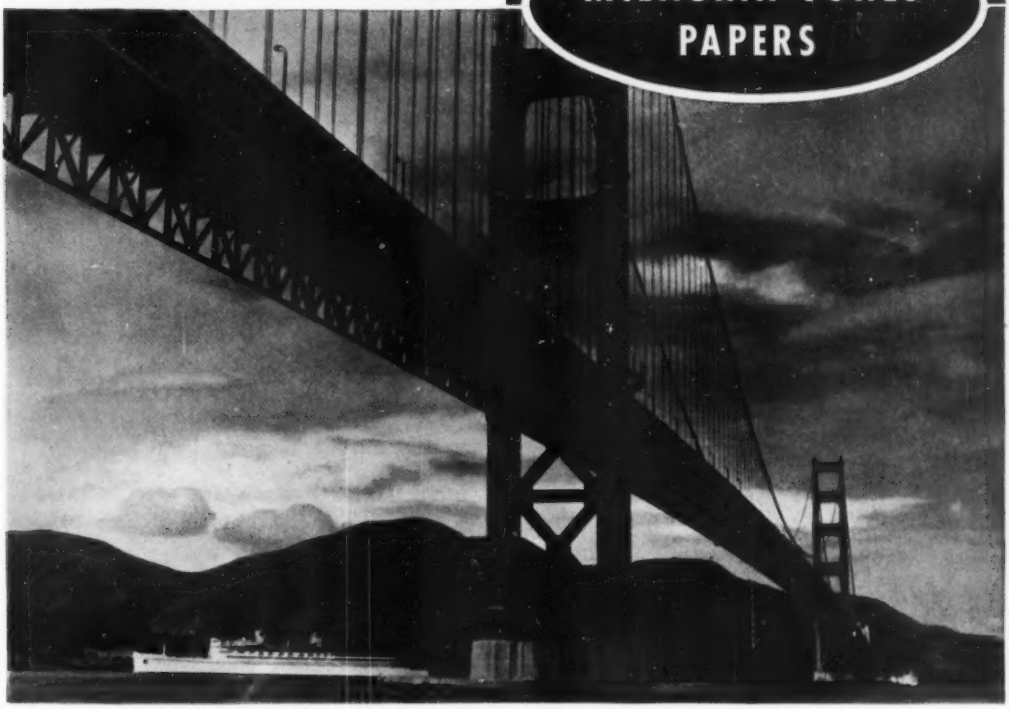

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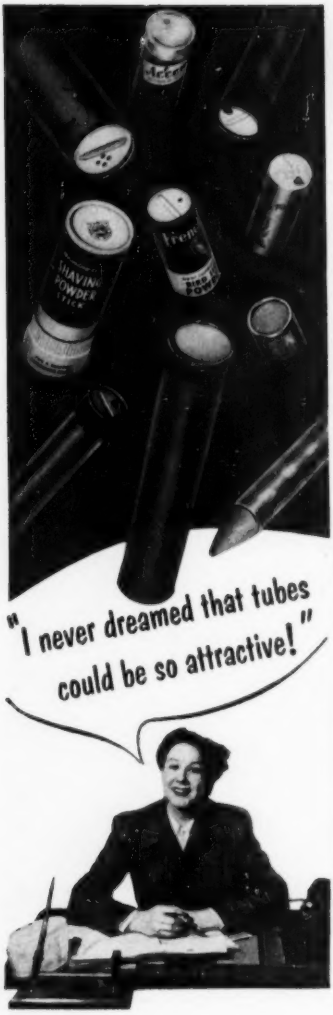

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In the hands of Niemand Bros. tubes are *high styled*. Ask for suggested designs for your products.

NB NIEMAND BROS. INC. – PAPER TUBE PRODUCTS

Plants and people

(This article continued from page 197) executives of Dillon-Beck Mfg. Co., Hillside, N. J. The company will assist in the design and development of plastic products, including packaging. Facilities of O'Hara-Rowan include both designing and manufacturing.

F. Schwartz

Fred Schwartz has joined the staff of the **Hudson-Sharp Machine Co.**, paper machinery manufacturers, Green Bay, Wis. Mr. Schwartz, who has been in the paper machinery and allied fields for 41 years, headed his own firm of industrial designers for the last six years and was associated with the Combined Locks Paper Co.

Melvin E. Barthen has announced his resignation as a director and administrative vice president of **The Ohio Boxboard Co.**, Rittman, Ohio. Mr. Barthen started with the company in 1935 as Pittsburgh sales representative. He moved to Ohio's Rittman office in 1944 as sales manager, cartons and containers. In 1946 he was transferred to Ohio's Production Div. as assistant to the vice president of production and in 1947 became general superintendent of the Carton Div. For the last four years Mr. Barthen has served Ohio Boxboard as administrative vice president.

The Metlon Corp., manufacturers of nontarnishing metallic yarns, have moved to new and larger quarters in the same building, 432 Fourth Ave., New York.

J. V. Shea

John V. Shea has been elected to the board of directors of the **Lassiter Corp.**, Charlotte, N. C., designers and printers of textile and food packaging. Mr. Shea has been with Lassiter for seven years and is vice president in charge of sales, with offices in New York.

Charles T. Woolen has joined the staff of the Lassiter Corp.

Container Corp. of America, Chicago, has appointed **R. M. Bennett** as manager of beer packaging, Eastern Folding Carton Div., to specialize on service to brewing accounts in Eastern Seaboard states. Mr. Bennett will headquarter at the company's New York sales office and will work in an advisory capacity with members of the regular sales force. Mr. Bennett has been identified with the development of new packaging and packaging machinery for the brewing industry during the past two years. In 1952 he helped organize the packaging presentation at The United States Brewers Foundation convention.

Henri V. Bouscaren has been appointed manager of carrier carton sales at **The Gardner Board & Carton Co.**, Middletown, Ohio, manufacturers of paperboard, folding cartons and retail boxes. Mr. Bouscaren was vice president in charge of production and sales for Poole Bros., Inc., of Chicago before joining Gardner.

Jerome S. Bond, vice president of the **United States Printing & Lithograph Co.**, Cincinnati, Ohio, died in Chicago of a heart attack on April 13. He was 50 years of age. In addition to his duties with U. S. Printing & Litho, Mr. Bond was active in several trade associations in the graphic-arts industry, in which he spent his entire business career. At the time of his death he was a member of the board of directors of the Label Mfrs. Assn. and active on several committees of the Lithographers National Assn. and the Folding Paper Box Assn. of America.

J. S. Bond

Malcolm McFaull, leading figure in the packaging equipment field, died suddenly of a heart attack on April 30 while in his New York office. He was 66 years of age. Mr. McFaull was serving as an active consultant to **Standard-Knapp Div. of Emhart Co.**, Portland, Conn., at the time of his death.

William B. Rogers, 3rd, technical sales representative of **Angier Products, Inc.**, Cambridge, Mass., died on April 5 after a brief illness. Mr. Rogers had been active in the promotion of new products for industries using adhesives.

James Oliver Deegan, 58, president of **Anchor Cap & Closure Corp. of Canada, Ltd.**, Toronto, and a director of **Anchor Hocking Glass Corp.**, Lancaster, Ohio, died at his home on April 4 following a brief illness.

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The perfect clarity of transparent Styron® displays to perfection the good texture and enhances the keeping qualities of your dairy products. Your customers can see for themselves how fresh your products are.

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For your convenience, Dow offers a complete Styron packaging advisory service. If you are looking for a better appearing, better selling package, simply furnish Dow with full information regarding the product, the inside dimensions of the required package, and other specific details such as type of closure, desired color and any other pertinent details.

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For your information

The Mechanical Engineering Dept. of the **Massachusetts Institute of Technology** will present the **1953 Industrial Packaging and Materials-Handling Technical Short Course** educational program next October in Boston. The course, sponsored by the **Society of Industrial Packaging & Materials Handling Engineers**, is part of the annual triple event which also includes the **Industrial Packaging and Materials Handling Exposition** and the **National Protective Packaging and Materials Handling Competition.** The four-day short course will begin Oct. 19, while the exposition will open the following day. Details for the short course are being arranged by **Prof. C. R. Soderberg, Associate Prof. John E. Arnold** and **John W. Kraus** of Thompson Products Co.

The 1954 over-all convention of the **National Canners Assn., National Food Brokers Assn.** and the **Canning Machinery & Supplies Assn.** has been set for Jan. 23-27, Atlantic City.

The spring meeting of a newly organized Education Committee of the **Packaging Institute** was held in Chicago during Packaging Week. Attending were **Lloyd Stouffer,** MODERN PACKAGING, **John Shields,** Betner Div. of Continental Can Co.; **W. L. Romney,** Procter & Gamble **Harold F. Birnberg,** Elmer E. Mills Corp.; **James W. Goff,** in charge of the new course in Packaging at Michigan State College. **J. W. LaRocque,** chairman of the PI General Committee, presided. A tentative agenda set up for committee activities includes the development of a recommended program or curriculum for the education of packaging specialists; establishment of a speakers' bureau for the purpose of informing young people of the opportunities in packaging, and the setting up of a procedure for obtaining summer work in the field for packaging students. Mr. Goff was named chairman of the committee.

A new 32-page catalog has been issued by **E. W. Bliss Co.** on its can- and container-making machinery (Catalog 36-A). It carries illustrations and specifications for both automatic and semi-automatic machines, including slitters, body makers, seamers, flangers, beaders and testers, as well as numerous special-purpose machines used in container making. Copies may be had from E. W. Bliss Co., Canton, Ohio.

A new promotional booklet published by the **Forbes Lithograph Mfg. Co.,** Boston, illustrates the three types of printing done by the company: the cover is letterpress printed, an acetate insert is rotogravure printed and the illustrated text is lithographed. Titled "Delivering Merchandising Impact," the booklet describes in detail all of the company's operations and is replete with four-color illustrations of plant activities and work produced by the firm. Copies may be had from the Forbes company, P. O. Box 513, Boston 2.

Western Waxed Paper Div., Crown Zellerbach Corp., San Leandro, Calif., has issued two new folders describing its Glosseal frozen-food wrappers. One is devoted to stock vignettes in full color. The three basic stock designs, illustrated with color photographs, include an oval vignette featuring fruit, vegetable and specialty items; a shield design reserved for distributors and available in a wide variety of frozen food illustrations; a scallop-type design primarily for packers of vegetables and seafood. The second folder has for its subject frozen-food wrappers for seafood. In addition to descriptive text, both folders contain current samples of the company's stock-design wrappers.

Two folders on Glosseal wrappers.

At its annual meeting to be held in Boston, June 21-25, the **Institute of Food Technologists** will present a citation to **Dr. Samuel Cate Prescott** of the Massachusetts Institute of Technology, honoring him for his distinguished career of leadership in the application of science to food technology. Dr. Prescott, a scientist and international authority on food technology, was the first president of the institute and has helped guide its policies since its founding.

The part that packaging plays in our general economy and the contribution to the packaging industry by the **Robert Gair Co., Inc.,** New York, are described in a color-illustrated booklet entitled "Gair Today—A Big Company in a Very Large Industry." The brochure, which contains more than 50 pages, details the company's facilities, comprised of 36 mills and plants in the United States and Canada for the production of paperboard, shipping containers, pulp and folding cartons. It contains a history of the company, a description of its present operations and its outlook for the future. The booklet is not available for general distribution to the public.

C. E. Eggerss, vice president of Continental Can Co.'s Fibre Drum Division, was re-elected president of the **Fibre Drum Mfrs. Assn.** at its recent annual meeting. **A. J. Godshalk** of the Fibre Drum Co. was re-elected vice president. Newly elected treasurer is **R. E. Hall** of

What's doing

June 15-25—**American Furniture Mart,** Merchandise Mart, Chicago.

June 16-18—**Basic Materials Conference,** Hotel Roosevelt, New York.

June 16-18—**Confectionery Industries Exposition,** Waldorf-Astoria Hotel, New York.

June 16-18—**Lithographers National Assn.,** 48th annual convention, Edgewater Beach Hotel, Chicago.

June 17-19—**A.M.A. General Management Conference,** Hotel Statler, New York.

June 18-21—**Canadian Paper Box Mfrs. Assn.,** Bigwin Inn, Lake of Bays, Ontario.

June 21-25—**Institute of Food Technologists,** 13th annual meeting, Hotel Statler, Boston.

June 22-26—**Second International Congress on Food Distribution,** Ostend Kursaal, Ostend, Belgium.

June 22-26—**13th International Dairy Conference,** The Hague, Netherlands.

June 23-25—**National Macaroni Mfrs. Assn.,** Hotel Broadmoor, Colorado Springs, Colo.

June 27-July 1—**National Assn. of Display Industries,** exposition, Conrad Hilton Hotel, Chicago.

June 28—**American Society of Mechanical Engineers,** Los Angeles.

June 29-July 3—**American Society for Testing Materials,** Chalfonte Haddon Hall, Atlantic City.

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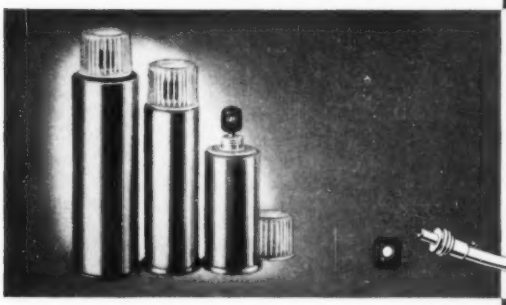
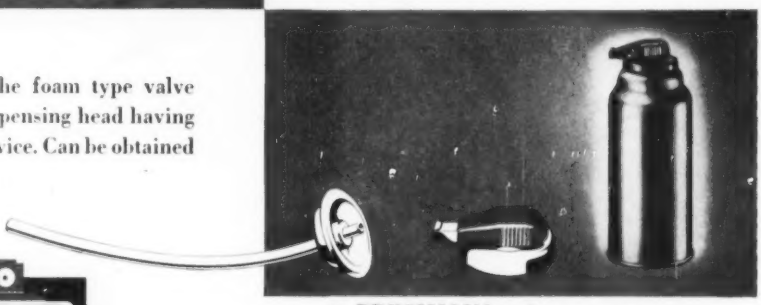
MODEL NO. 1. Complete assembled cup type valve for any one inch opening aerosol container. For all aerosol products. Protective dome offered in various colors.

MODEL NO. 2. Offered to those who prefer to use their own button design for aerosols or their own dispensing head for foam products.



MODEL NO. 3. For containers that have the valve mounting portion incorporated. Precision will supply the complete valve and stake the valve into the container.



MODEL NO. 4. The foam type valve complete with dispensing head having its own locking device. Can be obtained in various colors.

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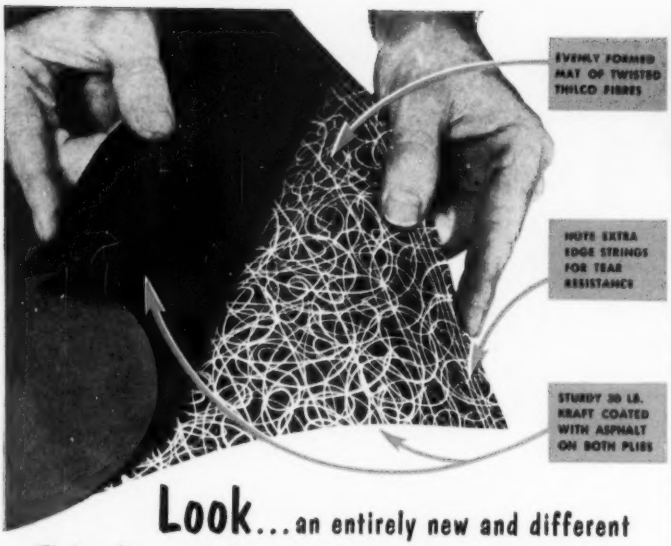
We invite your inquiry to enable our staff of aerosol valve technicians to work cooperatively in satisfying your valve requirements.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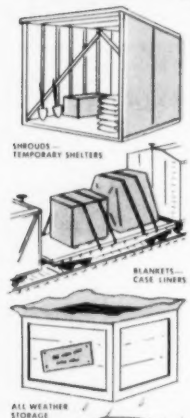

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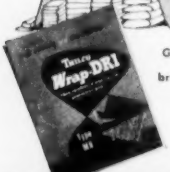
- TOUGH AND STRONG
- PUNCTURE RESISTANT
- EXCELLENT M. V. T. PROTECTION
- PLIABLE . . . EASY TO HANDLE
- COMPETITIVELY PRICED

For out of the ordinary uses you'll want *all* the extra protective advantages of type MR Wrap-Dri. Here's tough, durable Kraft with Thilco fibre reinforcing formed into a continuous mat to provide *all-directional* strength with superior puncture resistance — Thilco's exclusive method of fibre application insures over-all evenness and coverage — free from voids that "hole-thru". *Double* asphalt coating of both kraft plies completely envelops the mat and eliminates all danger of moisture "wicking" so often found in ordinary single-asphalt film. Permanent bonding completes its excellent M. V. T. resistance. MR Wrap-Dri also remains pliable for easy handling and forming to packages of irregular shape. Available in standard grades or "tailor-made" to your requirements in special finishes and asphalt blends. Write for brochure describing the sensational new, economical waterproof wrapper today.



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For your information

Pacific All-Fibre Drums, Inc., and **R. F. Gumbert** of Plyfiber Container Corp. was named assistant treasurer. Mr. Godshalk and Mr. Hall were elected directors.

Among the subjects presented at the meeting were proposals for revisions to Federal Specification UU-D-723 Domestic and Overseas Types, and Military Specification JAN-D-111 Overseas Type; recommendations to the British Standards Institution for drop tests and terminology more comparable to U.S. standards; and recommendations to the Consolidated Classification Committee for clarification of the term "semi-liquids" on a viscosity and temperature basis. The association voted to join with the Department of Agriculture's P.M.A. Poultry Branch and other organizations in sponsoring a three-day course on packaging and marketing of poultry and egg products, to be given at the University of Maryland next September. The association has two foreign members cooperating with the drum manufacturers in the U. S. on standards for overseas containers for many products. They are the British firm of Bowaters Fibre Drums, Ltd., and A. Pomeon et Cie of France.

The next midyear meeting of the association will be held in Boston, Oct. 15-16, at the Statler Hotel.

A new book on color, entitled "Color Digest," is available from the **Higgins Ink Co., Inc.**, 271 Ninth St., Brooklyn, N. Y. Written by **Bert Cholet**, advertising manager for Higgins, with an introduction by **Tracy Higgins**, president of the company, the text is presented in layman's language and is said to be helpful to those who use color in any way. Attached to the back cover is an envelope containing all parts for assembling an authentic Ostwald solid in a special arrangement devised by Mr. Cholet. This device demonstrates the three-dimensional aspect of color in a graphic manner. The book is priced at $2.

Members of the **Packaging Machinery Mfrs. Institute**, at its recent semi-annual meeting in Chicago, expressed the opinion that the general business level for 1953 for packaging machinery seems to be consistently maintaining itself at average demand, with manufacturing costs on an increasing basis. Speakers at the meeting, held during Packaging Week, included **K. L. Finkenstaedt** of W. F. & John Barnes Co., **Tom Miller** of Package Machinery Co. and **Edwin H. Schmitz** of Standard-Knapp, president of the Institute. **Herbert H. Weber**, president of

H. G. Weber & Co., was program chairman.

The 21st annual meeting of PMMI has been scheduled for Sept. 20-23, at Skytop Lodge, Cresco, Pa.

Lord Baltimore Press is distributing a new brochure which dramatizes the three straight awards it has won during the last three years for "the package with the best full-color reproduction" in the annual carton competition sponsored by the **Folding Paper Box Assn. of America**. The promotion piece is in the form of a long-

Lord Baltimore promotion album.

playing record album containing three disks. The disks are authentically embossed and an actual prize-winning carton is mounted on each. The record-album theme is carried through in the copy on each of the pockets. For example, the label on the 1953 prize winner reads in part, "Blonde Beauty—a symphony in six colors." This copy describes a carton printed for Helena Rubinstein.

A new catalog titled "Over Fifty Years of the Finest Paper Box Machines," has been published by the **Stokes & Smith Co.**, Philadelphia. Illustrated are the company's set-up box-wrapping machines, the Stokesfeed machines, automatic quad stayers, automatic double enders, automatic stackers, automatic gluers and automatic thumb-hole cutters. Descriptions and specifications are given for the various machines. Copies of the booklet may be requested from Stokes & Smith, 4958 Summerdale Ave., Philadelphia 24, Pa.

Exhibit reservations are now being accepted for the **Third Annual Exposition** of the **Produce Prepackaging Assn.**, according to **M. E. Shank**, of the Dobeckmun Co., exhibit chairman for the association. The exposition is held in connection with the organization's conference the week of Oct. 4, 1953, Chase Hotel, St. Louis, Mo. The exposition will be kept relatively small and intensely specialized; exhibitors are restricted to those whose products and services relate directly to the industry. Information on exhibit space may be secured from **Robert A. Cooper**, association secretary, 1250 E. Main St., Stamford, Conn.

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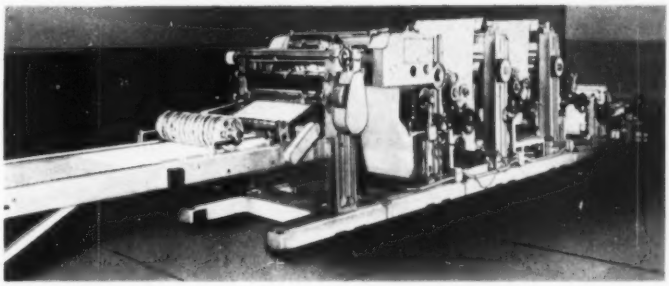

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U. S. patents digest

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps not accepted. Edited by H. A. Levey

Package of Paste-Like Material, A. A. Klippert, R. P. McGhie and E. L. Richardson (to Colgate-Palmolive-Peet Co., Jersey City, N. J.). U. S. 2,631,722, March 17. A package for materials of a pasty or semisolid nature which tend to bleed, comprising a container filled with the material to be packaged, said container having a neck provided with an outer rim defining an opening, a closure cap removably mounted on container and a flat inner disk member having a diameter less than the inner diameter of the rim of the container, one face of disk being in contact with the surface of said material and the other face of disk being furnished with projection means, which provides a non-capillary space between closure cap and other face of disk.

Corner-Cushioning Packaging Device, H. I. Ellsworth, Portland, Ore. U. S. 2,631,723, March 17. In a packaging device for protecting exposed edges and constructed of a single thickness of sheet material, a scoring strip formed in the sheet material along an intended bending line, said scoring strip comprising a portion of the sheet material offset from the plane of the latter opposite the intended direction of bending, thus forming a cushioning edge having a hollow center.

Tray, E. C. Wright (to Union Bag & Paper Corp., New York, N. Y.). U. S. 2,631,724, March 17. A shipping tray comprising a blank cut and scored to provide a series of rectangular members spaced from each other and a plurality of strips connecting said members along lines indented from the edges of members, said members being arranged in abutting position to provide a base sheet, strips buckled upwardly to form triangular projections.

Labeling Machine, A. Schirmer (to The Liquid Carbonic Corp., Chicago, Ill.). U. S. 2,631,748, March 17. In this machine, a label-supporting means comprising two spaced arms for supporting spaced parts of a label therebetween, each of said arms including one portion offset from another portion, whereby one label may be supported in offset relation with another label.

Packaging Machine, C. T. Banks (to International Cellucotton Products Co., Chicago, Ill. U. S. 2,631,767, March 17. Apparatus for inserting articles into boxes, comprising a box conveyor, an article conveyor, said conveyor being disposed side by side in transversely spaced relation, means for driving said conveyors at like rates of travel, box-supporting means and article carriers on conveyors for supporting boxes and articles in predetermined position of alignment for facilitating shipment of the articles from the article conveyor into boxes on the box conveyor.

Filling Apparatus and Method, W. McK. Martin and A. E. Post (to James Dole Engineering Co., a corporation of Nevada). U. S. 2,631,768, March 17. Apparatus for filling a product in containers, comprising an elongated filler having an elongated discharge opening adapted to span the mouths of a plurality of such containers, means for supplying a substantially continuous stream of the product through said discharge opening divided into a plurality of spaced-apart branches and moving said branches in one direction.

Container Filling Machine, A. C. Everett (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U. S. 2,631,769, March 17. In a container filling machine a filling nozzle, a container-supporting platform arranged to be elevated to present a container into operating filling position during continuous movement of the platform, elevating means including a releasable connection normally cooperating with the platform and adapted to be completely disengaged when undue resistance to elevating movement is encountered.

Rotary Filling Machine, W. E. Gross, Joppa, Md. U. S. 2,631,770, March 17. Apparatus adapted to deliver leveled-off uniform charges of granular materials into a plurality of individually rotating containers revolving in a common orbit, apparatus including an upright frame having rigidly connected thereto in its upper portion a circular guide rail provided with spaced-apart, adjustably mounted cam members and having a vertical shaft centrally mounted in frame on a lower portion of shaft, a chuck ring gear and a circular cam rail provided with an upper cam surface and a lower cam surface.

Container, W. Hiersteiner (to Tension Envelope Corp., Kansas City, Mo.). U. S. 2,631,772, March 17. A preformed folded envelope of the type adapted to be folded and gummed in a conventional envelope-making machine and adapted to assume a flat condition when not in use and to form a box-like enclosure for receiving the contents to be placed therein.

Container Feeding Machine, F. E. Stirn and A. S. Taylor (to American Cyanamid Co., New York, N. Y.). U. S. 2,632,553, March 24. In a feed and positioning mechanism for a filling machine, the combination of a flexible traveling belt, an adjustably positionable support therefor, at least a pair of multidirection positionable lateral guide rails above and in cooperatively spaced relationship to belt, adapted to guide containers on belt.

Container, W. C. MacIntyre, Franklin, Ohio. U. S. 2,632,563, March 24. A container for packaging pastries such as pies and the like, comprising a pie plate and a circular band having a diameter slightly smaller than that of the pie plate for encircling and containing plate therewithin to form a cylindrical package.

Counting and Packaging Apparatus, J. Hoar, Jr., Epping, N. H. U. S. 2,632,588, March 24. A counting and packaging apparatus for counting small objects into predetermined quantities, comprising object-collecting means, a plurality of channels each adapted to feed objects to said collecting means, each of said channels having sensing means adapted to sense the passage of an object from channel to collecting means.

Method for Improving the Bonding Properties of Polyethylene Plastics, W. H. Kreidl, New York, N. Y. U. S. 2,632,921, March 31. The method of printing on a surface of a body of polyethylene resins which comprises subjecting the resin body to a differential heat treatment whereby the said surface is subjected to an elevated temperature sufficient to improve its bonding properties but not in excess of temperatures compatible with the stability of the polyethylene resin, while the material adjoint said surface layer is held at temperatures below the minimum temperature effective for said surface treatment and printing on said surface when in cool condition.

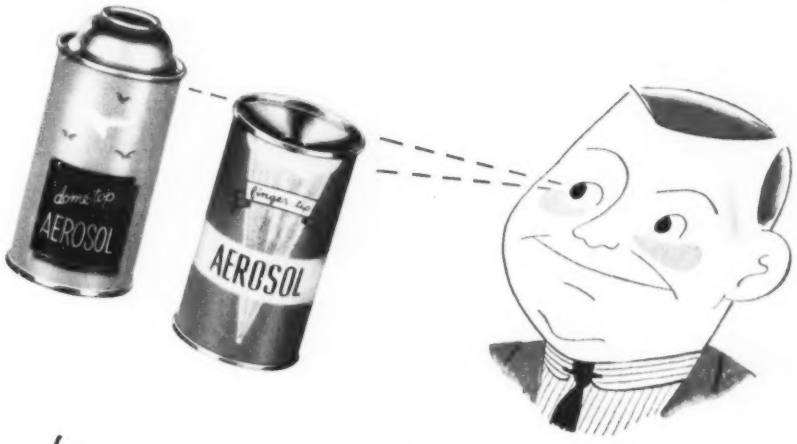
Gluing Machine, R. E. Ohrn (to Container Corp. of America, Chicago, Ill.). U. S. 2,633,063, March 31. In a machine for sealing a partially folded container blank, including four wall panels hingedly connected together and arranged in alignment, in which the two outer panels have been folded inwardly and folded upon the adjacent two inner contiguous panels to bring the edges of the outer panels into slightly overlapping relation, thus providing a substantially flat tubular blank structure, means for movement of the blank axially through the machine, a glue applicator roller positioned in the path of movement of the blank and depressing the edge into glue-receiving contact with the applicator roller.

Closure Cap, D. D. Acton (to Anchor Hocking Glass Corp., Lancaster, Ohio). U. S. 2,633,262, March 31. A closure cap of the preformed type adapted to form a seal with a container upon being pushed down over the container mouth.

Packaging Machine Transfer Mechanism, C. J. Malhiot (to F. B. Redington Co., Chicago, Ill.). U. S. 2,633,279, March 31. A packaging machine comprising a continuously operable conveyor having a series of aligned pockets for conveying articles along a predetermined path and a transmission mechanism for moving the articles along a second and different predetermined path with respect to the pockets.

Bagging Device with Pivotally Mounted Guide and Spreader Fingers, M. B. Rasmusson, Sacramento, Calif. U. S. 2,633,281, March 31. In a bagging device, an upright chute having a bottom outlet through which articles are dropped, means to feed an empty bag beneath said outlet with the filling end of bag uppermost, an air passage leading into said chute to direct air into filling end of bag to open said bag at least partially.

Partitioned Container with Closure, B. F. Kells (to Container Corp. of America, Chicago, Ill.). U. S. 2,633,285, March 31. In a paperboard container for baby chicks and the like wherein



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U. S. patents digest

there is a receptacle part and a cover part, the receptacle part having a bottom surrounding side walls and a substantially vertical partition disposed centrally of the container and means for retaining partition in relatively fixed relation in receptacle part.

Box-Making Machine, W. R. Watson (to Bird & Son, Inc., East Walpole, Mass.). U. S. 2,633,780, April 7. A box-making machine comprising gluing and pressing mechanisms to which the end formations of a box blank are presented as the box is advanced by the operator, guiding means associated with the gluing mechanism for guiding the box blank in substantially horizontal attitude past said gluing mechanism.

Shipping Package and Pallet Means, J. S. Addison (to Addison-Semmes Corp., Racine, Wis.). U. S. 2,633,982, April 7. In a shipping package, a substantially rectangular paperboard load-receiving platform having flat flanges at two opposite sides thereof substantially perpendicularly thereto and flush therewith, platform having spaced opening therethrough, a plurality of tubular paperboard load-supporting members enclosed from top to bottom thereof and substantially concentric with said openings and defining inner spaces extending downward.

Bottle Closure, L. G. Copeman (to Copeman Laboratories Co., Flint, Mich.). U. S. 2,634,012, April 7. A conventional crown-type bottle cap of stiff material, a bottle having a mouth and neck formed to receive a conventional crown-type bottle cap which is held in place by crimping around the outer edge of bottle, bottle neck being narrowed externally below the mouth, a protective covering underlying the bottle cap and overlying bottle mouth with a substantial skirt portion on neck below.

Bottle Closure, E. W. Atwood (to Copeman Laboratories Co., Flint, Mich.). U. S. 2,634,013, April 7. A bottle having a mouth and neck formed to receive a conventional crown-type bottle cap which is held in place by crimping around the outer edge of bottle, a protective covering underlying the bottle cap and overlying the bottle mouth and a substantial portion of the neck below the bottle cap.

Bottle Stopper, G. A. Kimber, Chicago, Ill. U. S. 2,634,014, April 7. An elastomeric bottle stopper comprising an elongated elastic annular body having an enlarged flange at the outer end and a bead on the periphery thereof at their opposite ends and provided with a tubular bore extending end to end of the body.

Can-Filling Apparatus, F. R. Davis (to The Armstrong Co., Detroit, Mich.). U. S. 2,634,035, April 7. Can-filling apparatus comprising a depending stationary nozzle having a circular lip, a case-supporting platform which is movable vertically beneath said nozzle and a cut-off ring surrounding said nozzle in can-filling position.

Container, W. C. Geort and J. A. Gousquet (to Gaylord Container Corp., St. Louis, Mo.). U. S. 2,634,038, April 7. A tall, heavy-duty, rigid container for shipping and/or storing material therein comprising a relatively shallow collapsible tray having a flat bottom with an upstanding wall thereabout and a plurality of open-ended collapsible sleeves, sleeves each being interiorly unobstructed throughout their lengths, snugly telescoped and of greater successive length relative to each other and said upstanding wall.

Molded Pulp Article, W. J. Schwertfeger (to Keyes Fibre Co., Waterville, Me.). U. S. 2,634,039, April 7. A container for fragile articles comprising a body member formed with a plurality of rows of cups separated by division walls extending longitudinally of the body member.

Foldable Carton, E. A. Kaufman (to Burroughs Adding Machine Co., Detroit, Mich.). U. S. 2,634,040, April 7. A carton comprising a blank formed from suitable carton stock and leaving a bottom portion with four connected side-wall portions, said blank having slots formed therein between parallel lines adjacent to the lines of connection of two adjacent ones of the side-wall portions with the bottom portion and having a top portion connected along one edge.

Container Construction, E. N. Burnett (to Gerber Products Co., Freemont, Mich.). U. S. 2,634,041, April 7. A box adapted for interlocking with two complementary box units at either end thereof to form a unitary box construction of at least three units in line, comprising hollow rectangular parallelepiped container.

Article Carrier, E. L. Arneson (to Morris Paper Mills, Chicago, Ill.). U. S. 2,634,043, April 7. A one-piece article-carrier blank of flexible paperboard stock, comprising two sets of side-wall,

end-wall and longitudinal partition and handle-forming panels, the respective panels of each of said sets being integrally connected by vertical creases in the order named.

Carton, W. P. Frankenstein, Cincinnati, Ohio. U. S. 2,634,044, April 7. In a carton formed from a main and a minor blank, the main blank having a bottom panel with hingedly connected extensions from the sides thereof and which extensions, when erected, form a carton having side and end walls and provide the exposed external surfaces of carton side and end walls, each wall comprising an inner and an outer wall member.

Box, M. A. Crinkley and E. C. Swanson, Minneapolis, Minn. U. S. 2,634,045, April 7. A box, such as a cake box, made of stiff sheet material adapted to be folded into shape from a blank to form an empty box having, in combination, a piece of stiff sheet material having front, rear and side substantially rectangular parts extending upwardly from a rectangular bottom and disposed substantially at right angles thereto.

Cardboard Box Structure, M. M. Weber, New York, N. Y. U. S. 2,624,046, April 7. A cardboard box structure having an integral finish coating on its outer surface, said box structure including an end wall having the cardboard material thereof partially cut away to provide interior routed channels extending respectively along the edges of said end wall.

Apparatus for Charging and Weighing Pulverulent Materials into Containers, A. H. Baker (to Pittsburgh Corning Corp., Allegheny County, Pa.). U. S. 2,634,983, April 7. An apparatus for feeding and weighing out a uniform layer of a predetermined amount of pulverulent material which comprises the combination of an open-bottom hopper for storing the pulverulent material, a grid for retaining material within hopper and a flat-bottom weighing bucket beneath grid.

Package Sealing Machine, J. R. Flanagan (to Stephen F. Whitman & Son, Inc., Philadelphia, Pa.). U. S. 2,634,876, April 14. In a machine for applying sealing tape to boxes, a frame, a table supported by the frame along which boxes to be sealed may be moved, tape applicators transversely movable with respect to the path of travel of the boxes and means to impart a reciprocating motion to said applicators.

Powder-Handling Device with Protected Driving Mechanism. P. E. Fischer and M. B. Sturdevant (to General Mills, Inc., a corporation of Delaware). U. S. 2,634,894, April 14. A filling machine comprising driving mechanism, a housing enclosing said mechanism and having an opening, a movable portion of the mechanism extending through the opening, a filling unit outside housing connected to the movable portion and having pressure-responsive sealing means.

Knock-Down Carrier, W. A. Ringler (to The Gardner Board & Carton Co., a corporation of Ohio). U. S. 2,634,895, April 14. In a knock-down paperboard carrier, a common wall foldable on a median score line and forming inner side walls of two parts of said carrier.

Container, J. C. Graveno, South Euclid, Ohio. U. S. 2,634,896, April 14. A liquid container of foldable, moistureproof material comprising four side walls scored at their upper ends to provide a closure embodying a pair of outer sealing members and a pair of inner sealing members arranged between said outer sealing members and cooperating therewith.

Pouring Spout for Cartons, M. Bord, Yonkers, N. Y. U. S. 2,634,897, April 14. A pouring spout for a paper carton having two large and two small flaps on one end thereof, small flaps lying on a common plane and larger flaps being superimposed upon smaller flaps and lying in parallel planes, a portion of one of smaller flaps being partly cut out from flap and being bent to form a spout.

Glueless Interlock for Folding Box Panels, R. B. Meller (to Bemiss-Jason Co., San Francisco, Calif.). U. S. 2,634,899, April 14. In a box blank of foldable sheet material including a main panel, a first wall panel hingedly connected to the main panel along a first fold line, a second wall panel hingedly connected to the main panel along a second fold line extending at an angle with respect to the first fold line and a flap hingedly connected to said first panel along a third fold line extending at an angle with respect to first fold line and folded whereby the corner is securely locked.

Folding Box or Carton, D. Levkoff, Great Neck, N. Y. U. S. 2,634,900, April 14. A box of sheet material having a bottom, sides and ends, the bottom having a score line dividing it longitudinally into halves and the ends comprising foldable sections hinged to the sides, each section having substantially the same width as the half of the bottom and hinge connected to the adjacent section.

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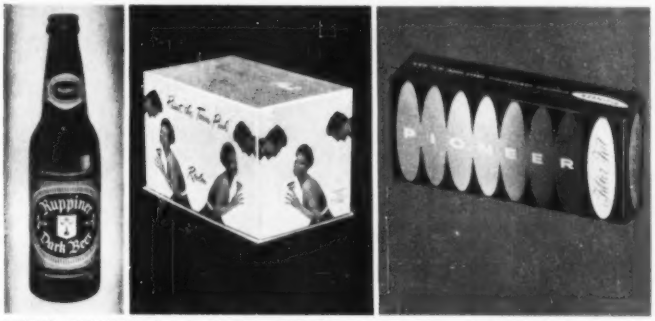
Lithographic package winners

An exhibit of the 197 winning entries in the 3rd Lithographic Awards Competition, sponsored by the Lithographers National Assn., was held in the Gallery of the Architectural League, New York, last month and will be displayed again at the association's 48th Annual Convention at the Edgewater Beach Hotel, Chicago, June 16-18. More than 1,500 entries were received from all over the United States and from Canada. Certificates of award for the winners were presented both to the company making the entry and to the lithographer who produced the job.



FIRST AWARDS for Packaging Materials went to Ruppiner Dark Beer label, Revlon's Paint The Town Pink wrap and Pioneer Filter Kit carton.

The LNA committee responsible for this year's Awards Competition was under the chairmanship of Ralph D. Cole, president of the Consolidated Lithographing Corp. Among the judges in the "Packaging Material" classification was Donald R. Ruther, art director of MODERN PACKAGING. First-award winners in the Packaging Material category are illustrated.

In the **Labels** group, first award was won by Jacob Ruppert Co.'s Ruppiner Dark Beer bottle label, produced by the Sackett & Wilhelms Lithographing Corp., New York. Second award went to Spice Island Co.'s Spice Island canister, produced by the Schmidt Lithograph Co., San Francisco, while third award was presented to Xlnt Co.'s Xlnt Tamales, produced by the Western Lithograph Co., Los Angeles.

First award for **Wrappers** went to Revlon Products Corp.'s Paint The Town Pink package, produced by The Lord Baltimore Press, Inc., Baltimore, Md. Petri Wine Co.'s Signature Wines, produced by H. S. Crocker Co., Inc., San Bruno, Calif., won second award in this group.

Pioneer Scientific Corp.'s Pioneer Filter Kit, produced by Turk & Reinfeld, New York, won the first award for **Cartons.** Second award went to Revlon Products Corp.'s Fire & Ice Nail Enamel, produced by The Lord Baltimore Press, while third award was presented to Frankfort Distillers Corp. for the carton packaging its Four Roses, produced by F. N. Burt Co., Inc., Buffalo, N. Y.

Measuring package odor

(*This article continued from page 150*)

(B) *Known odor.* When the odor is familiar, or is established, each individual panel member shall rate the coded samples numerically according to the following table:

Odor	*Rating*
Essentially none (pleasant)	1
Slight, but not objectionable (neutral)	2
Moderate objectionable (unpleasant)	3
Strong (offensive)	4

Intermediate ratings, e.g., 2.5, may be made where increased sensitivity is possible.

NOTE: The decision between "slight" or "not objectionable" and "moderate" or "objectionable" will obviously depend upon the product tested, the functional requirements and the experience of the test panel. The objectionable odor level must be *remembered,* with some help from standard samples.

The individual ratings shall be tabulated and if possible averaged. The

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PHOTOGRAPHIC PREPARATION OF SILK SCREENS. Two bulletins explain how to use Kodak "Ektagraph" film for rapid preparation of silk screens from line or continuous tone copy. Eastman-Kodak Co. **(F-357)**

AUTOMATIC TAPING MACHINE. Bulletin gives details on a machine which automatically applies any standard width gummed tape to cartons as they come through a conveyor line. Particularly well adapted to brewery cartons. Wagner Iron Works. **(F-360)**

FOLDING CARTON STYLES. Informative booklet illustrates 34 different styles of folding carton construction plus several additional patented variations. Check list of points to be considered when developing and ordering cartons. Robert Gair Co., Inc. **(F-372)**

PREPARING COPY FOR FLEXOGRAPHIC PRINTING WITH RUBBER PLATES. A guide for the artist who has to prepare positive and reverse black and white and color copy for flexigraphic printing with curved rubber plates. Mosstype Corp. **(F-384)**

"CORRUGATIONS." House organ features several interesting articles on how this corrugated carton manufacturer met the need of several clients for shipping containers and displays. Stone Container Corp. **(F-389)**

Any of the booklets described here plus many others—forty-four in all—are available for the asking, without charge or obligation.

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exact procedure followed shall be recorded.

(C) *Taste as odor index.* The same reporting system shall be used on samples under Procedure III B to III E, inclusive.

NOTE: After all the test results are in, it is usually desirable to review individual reports in a group meeting, for educational purposes.

Reproducibility

If the average rating is over the previously agreed rejection point (generally two), make a check test, preferably using different panel members.

References

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3. Dawson, Elsie H. and Harris, Betsy L., "Sensory Methods for Measuring Differences in Food Quality," Agriculture Information Bulletin No. 34, Washington, D. C., U. S. Government Printing Office, 1951.

4. Cartwright, L. C., Snell, C. T., and Kelley, P. H., "Organoleptic Panel Testing as a Research Tool," *Anal. Chem.* 24, No. 3: 503–506 (Mar., 1952).

5. Cartwright, L. C., and Kelley, P. H., "Organoleptic Evaluation of Paper Products for Food Packaging," *Tappi* 35, No. 7: 306–309 (July, 1952); MODERN PACKAGING 25, No. 11: 145–147; 201–202 (July, 1952).

6 Crocker, Ernest C., "The Nature of Odor," *Tappi* 35, No. 7: 169A–175A (Sept., 1952).

Self-selection trend

Department stores are expected to spend in the aggregate about $25,000,000 on fixturing and other aids to stimulate self-selection selling during the next few years, according to estimates mentioned at the recent National Retail Dry Goods conference on self selection, New York.

Several hundred store representatives from all parts of the country gathered for this all-day panel discussion to point out ways for department stores to keep abreast of the booming trend to simplified selling in all types of retail merchandising. The panel discussions were conducted by experts in the field of packaging, store design, point-of-sale display as well as manufacturers already embarked on successful self-selection lines.

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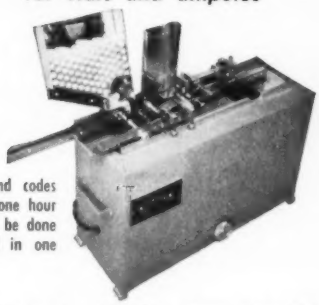

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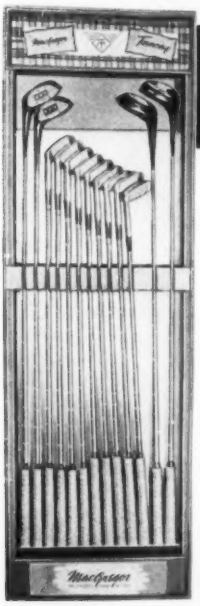

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for an *Old* ESTABLISHMENT

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Plastics in packaging

The packaging industry consumed close to 500 million pounds of plastics materials with a value of approximately $300 million in 1952, according to R. C. Evans, general sales manager of the Plastics Division of Monsanto Chemical Co. This includes molding materials, rigid and flexible films of all kinds, including cellophane as well as coatings.

A rough estimate of the quantity of plastics that are being used in many packages and containers is reported as follows: styrene, 25 million pounds; phenolic, 25 million pounds; acetate (rigid and flexible), 22 million pounds; polyethylene (film and molded containers), 40 million pounds; cellophane, 290 million pounds; other types of film, 12 million pounds; miscellaneous plastics, 10 million pounds; coatings, 75 million pounds. Mr. Evans indicated that the family of plastics will continue to grow.

Set-up box awards

(This article continued from page 131)

pillowcase gift box family, Pepperell Mfg. Co. **Hosiery and Apparel:** To Walter P. Miller Co., Inc., for hat box, John B. Stetson Co. **Footwear:** To Frank C. Meyer Co., Inc., for women's shoe box, Copley's shoes. **Retail Boxes:** To Stecker Paper Box Co., Inc., for millinery and gown boxes, The Irving Shop, Inc. **Toys and Games:** To American Box Co., Inc., for Flexible Play Dolls boxes, Flagg & Co. **Jewelry:** To Dennison Mfg. Co. for Wadsworth Compact box, Elgin National Watch Co.

Class B–Best Surface Design and Execution: Second award to Old Dominion Box Co. for sheet and pillowcase gift set, Dan River Mills, Inc.

Class C–Superiority of Construction: Second award to The Mason Box Co. for surgical blades knife box, Bard-Parker Co.

Class D–Best Display Box: Second award to Walter P. Miller Co., Inc., for Norma-Chrome Display box, Hydrol Chemical Co.

Class E–Best Transparent Box: Second award to F. N. Burt Co., Inc., for Carousel Perfume set, Beauty Counselors, Inc.

Honorable mentions

Class A–General Superiority According to End Use: **Drugs:** To Walter P. Miller Co., Inc., for Norma

Chrome Display, Hydrol Chemical Co. **Cosmetics:** To Newark Paper Box Co. for lipbrush box, Elizabeth Arden Sales Corp. **Personal Accessories:** To Dennison Mfg. Co. for eyeglass frame book, American Optical Co. Also to Essex Paper Box Mfg. Co., Inc., for umbrella gift box, Ohrbach's, Inc. **Food:** To Congress Paper Box Co. for Cocktail Delight Cheese Box, Sue-Ann Food Products, Inc. **Confections:** To Boxcraft Paper Box Co., Inc., for Centennial Gold Box, Hoefflers Centennial Chocolates, Inc. Also to Master Paper Box Co. for Easter Greetings box, Andes Candies, Inc. **Textiles:** To Old Dominion Box Co. for sheet and pillowcase gift set, Dan River Mills. **Retail Boxes:** To Western Paper Box Co. for gift boxes, Dohrman Commercial Co. **Stationery:** To I. A. Deline Paper Boxes, Inc., for gift sets, Hobby Stationers, Inc. **Office Supplies:** To L. Gordon & Son, Inc., for memo notes and pencil box, Stylecraft of Baltimore. **Mailers:** To Walter P. Miller Co., Inc., Philadelphia, for a pharmaceutical mailer made for Schering, Inc.

Class B—Best Surface Design and Execution: Honorable mentions to Consolidated Paper Box Co. for sheets and pillowcase gift family, Pepperill Mfg. Co.; Pacific Paper Box Co. for men's dress shirt boxes, Shirt Design, Inc.

Class C—Superiority of Construction: Honorable mentions to F. N. Burt Co., Inc., for drill set family, Standard Tool Co.; American Paper Box Co. for Travel Masters Shoe Box, Sandler of Boston.

Class D—Best Display Box: Honorable mention to Dennison Mfg. Co. for Snorkel Pen box, W. A. Sheaffer Pen Co. To Dennison Mfg. Co. for Flashlight display, Bantam-Lite, Inc.

GRAND AWARD

At the meeting on May 19, the Argus C-4 camera display box was selected by delegates to the National Paper Box Mfrs. Assn. convention as the Grand Award Winner of the Annual Set-Up Paper Box Competition. Made by W. C. Ritchie & Co., Chicago, the Argus C-4 box (see illustration on p. 129) also won three other awards: Best Box in the Photographic Field, First Award in Construction, First Award for Display Box.

MARKEM SOLVED THIS MARKING PROBLEM

PRINTING LABEL INFORMATION ON CARTRIDGE ENCLOSED FUSES

Working closely with Underwriters' Laboratories, Inc. and with leading fuse manufacturers, Markem has developed a method which makes possible for the first time the printing of label information directly on cartridge enclosed fuses at production rates. Markem's direct ink imprints cannot "fall off" and are unaffected by moisture or ordinary chemical atmospheres. Paper label inventory and wastage problems are eliminated. Print is larger and color coding and identification are simplified. Fuse manufacturers anticipate better labeling at higher production rates and with lower costs. The Markem Method —Markem Machine, Markem type and ink and the special recording die roll for use when UL Manifest is required—as well as the imprint itself meet with UL approval.

MARKEM MARKS THEM ALL

CAN MARKEM HELP YOU? Printing labels directly on cartridge enclosed fuses is but an example of how Markem solves industry's marking problems. Markem has been providing industry with production techniques and equipment to identify, decorate or designate its products, parts and packages since 1911. Markem also provides technically trained men who are available in your area to assure *continued* satisfaction with Markem methods and equipment.

When *you* have a marking problem, tell us about it and send a sample of the item to be marked. Perhaps a complete Markem method has *already* been developed to solve your problem. If not, Markem will work out a practical solution.

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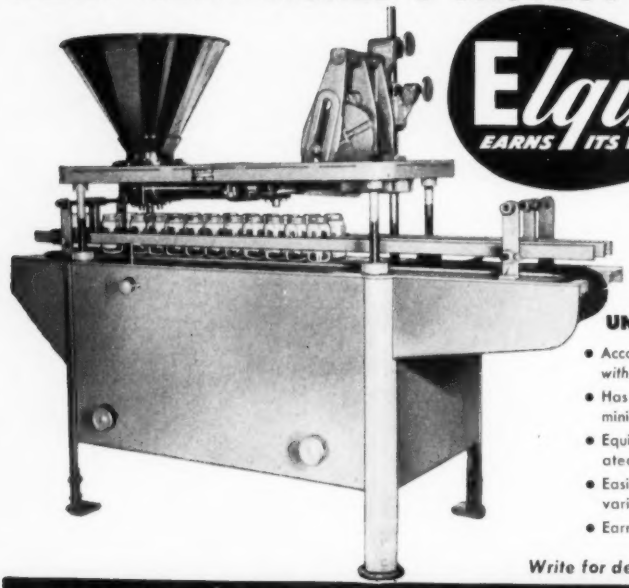

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In-store wrapping

In-store cellophane wrapping of packages has been announced by L. Bamberger & Co., Newark, largest department store in New Jersey. All appropriate merchandise through the entire store is being converted to store-wrapped cellophane packages.

A two-month test period revealed an increase in sales of cellophane-wrapped items and a sharp reduction of soilage markdowns, store officials report. Since January the test has been extended through 12 departments—linens, curtains, towels, pillow cases, layettes, upholstery sundries, china, cosmetics, men's shirts, women's sweaters and some sporting goods. Other departments are being added rapidly.

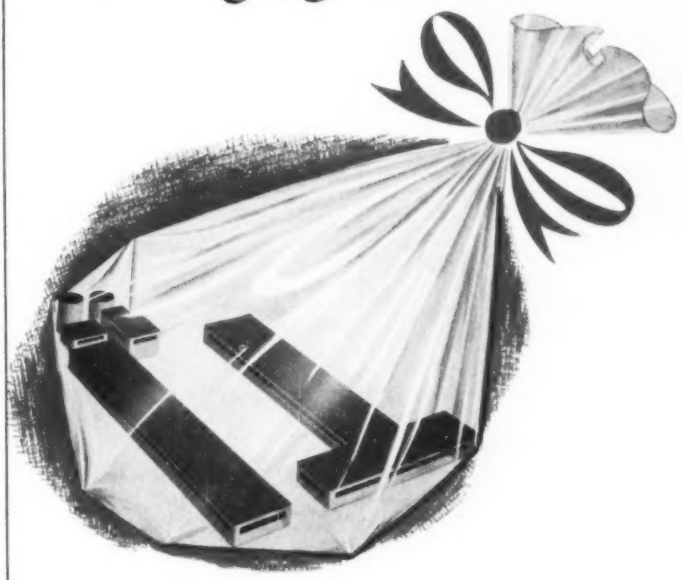
"The operation does more than pay for itself," said V. G. O'Connell, Bamberger assistant manager of operations. "In the layette department alone, savings will pay for automatic bag-making machinery and heat-sealing equipment for the entire store." Just as important as the savings due to the reduction in soilage and the elimination of mismates is the new opportunity for multiple sales opened up with cellophane bags, he added.

Key to the success of the operation, according to Miss Marion Evers, Bamberger receiving manager, under whose direction the test was conducted, lays in the standardization of cellophane-bag width sizes. A survey by the cellophane supplier showed that only seven different bag widths would be sufficient for all types of merchandise in the store which could conceivably be cellophane wrapped. During the two-month test period, an automatic bag maker and a high-speed automatic power jaw sealer were installed in the receiving department. Later it was discovered that for most departments the proper place to insert merchandise into the bags and seal them was right at the counter. Wrapping goods at the store has not required a single additional employee, the company reports.

As far as the Bamberger management is concerned, the test period is over but the merchandising experimentation with cellophane wrapping has only begun.

CREDITS: *Cellophane*, Olin Cellophane Div., Ecusta Paper Corp., 655 Madison Ave., New York. *Bag-making machine*, Simplex Packaging Machinery, 534 23rd Ave., Oakland, Calif.

At Your Disposal for Your Packaging Problem...



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All operations are conducted under one roof . . . quality controlled at every step. • Prestolene is available in any weight or gauge up to 90" wide . . . readily adaptable to and highly desirable for the meat, frozen food, and bag trade. • We are ready to work with you from the original idea right up to the finished package. Write, wire, or phone.

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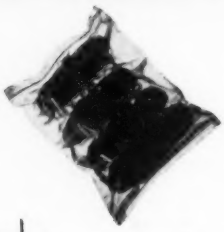

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- Machines developed to meet your requirements for sealing and fabricating special shapes

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More polyethylene

Total United States production of polyethylene will amount to over 300 million pounds by 1955, it was predicted by H. S. Bunn, president of the Bakelite Co., a division of Union Carbide & Carbon Corp. Within the next two years, the Bakelite Co. will complete the construction of three new plants with facilities to produce Bakelite polyethylene plastic, its compounds and other chemicals from natural gas. The expansion program is anticipated to give Bakelite about 50% of total domestic production of polyethylene or 250 million pounds a year.

Recalling that the price of the basic resin has plunged from the $1-a-pound price of 1943 to the current price of 44 cents, Mr. Bunn foresaw further price reductions because of wider use and efficient engineering and production techinques. "I cannot predict exactly what the price will be in 1955 or 1960," he said, "but it will certainly be in the 'thirty' cents-per-pound range and maybe in the 'twenties'." While Mr. Bunn did not say so as such, further price reductions in the basic resin will make polyethylene more keenly competitive with the older films and other types of containers.

According to Mr. Bunn, the large demand for polyethylene—still far in excess of supply—has never really given the film a chance to demonstrate its versatility and wide adaptability. As new and present producers increase total production, however, the principal users are expected to step up their output of squeezable, non-breakable bottles which are being used as handy dispensers for shampoo, cosmetics and nose sprays; translucent film wrappings for frozen foods, pre-packaged produce and foods in individual-portion packages. He said that the development of new applications for polyethylene is expected to increase geometrically as in the past.

Cellophane for dry edibles

(This article continued from page 155)

Preliminary experiments on package fumigation of beans and peas[1] by the Bureau of Entomology and Plant Quarantine indicate that beans and peas packaged in single 300, duplex 300, single 450 and single 600 PT cellophane can be practically and effectively fumigated by adding a drop of liquid to each package before sealing.

Fumigants that appear to be most suitable for this purpose are: (1) Propylene oxide, (2) I. P. F. No. 3, (3) 5% ethylene dibromide in 95% carbon tetrachloride and (4) 15% ethylene dibromide in 85% carbon tetrachloride.

Effective dosages are as low as 0.2 ml. per 1-lb. package.

Work with repellants has not progressed sufficiently to make valid any comments at this time.

Tests made earlier in the year indicated that certain types of cellophane bags when packed with beans and cowpeas were difficult to fumigate in atmospheric fumigation vaults. Additional tests were made by using tape-sealed and heat-sealed cellophane bags of the following types: 300 MST single, 300 MST double, 300 PT double, 450 PT single and 450 MST single.

A dosage of 3 lbs. of methyl bromide per 1,000 cu. ft. of space for 24 hrs. at a temperature of 59 to 65 deg. F. was 100% effective against all stages of the two weevils in blackeye cowpeas in all tape-sealed cellophane bags with the exception of the 300 MST double type. In two out of three of these bags a small survival of the common bean weevil occurred. In the heat-sealed bags there was but little kill in the heat-sealed 300 MST double bags, a slight survival in one out of three 300 MST single bags, but a complete kill in the rest.

With a 4-lb. dosage of methyl bromide per 1,000 cu. ft. of space for 24 hrs., the kill was complete in all types of tape-sealed bags and nearly complete in all types of heat-sealed bags. A very small survival occurred in one of three bags of heat-sealed 300 MST single-type and 300 MST double-type bags.

Cellophane is highly impermeable to the passage of most gases, which may be a significant factor in fumigation of cellophane packages.

Packaging in 1-, 2- and 3-lb. cellophane containers has proved to be more satisfactory than in transparent films, such as saran, Pliofilm, polyethylene and others that are now being used. Experienced packagers report,

[1] By C. K. Fisher and H. D Nelson, BEPQ, 1951.

ONE GALLON
SODIUM HYPOCHLORITE IN Duraglas CONTAINERS
SODIUM HYPOCHLORITE IN Duraglas CONTAINERS
SODIUM HYPOCHLORITE IN Duraglas CONTAINERS

These Duraglas packages are salespackages for sodium hypochlorite . . . convenient and efficient in use for repeat sales. They are Duraglas stock-mold bottles B-1273, B-1101 and B-1424 (quart, gallon and half-gallon).

Get set for a Sales clean up!

Today's packages must be geared to a particular product—be able to sell it, and *keep* it sold during use.

These Duraglas stock-mold packages for sodium hypochlorite, for instance, have neck handles on the larger sizes that make them easy to carry and pour; wide label areas for full display impact; tin, aluminum or molded plastic closures that provide an efficient seal and reseal.

For all your packaging needs . . . glass containers, closures, label designs and cartons . . . take advantage of Owens-Illinois' *complete* packaging service.

Duraglas packages are protectors of quality

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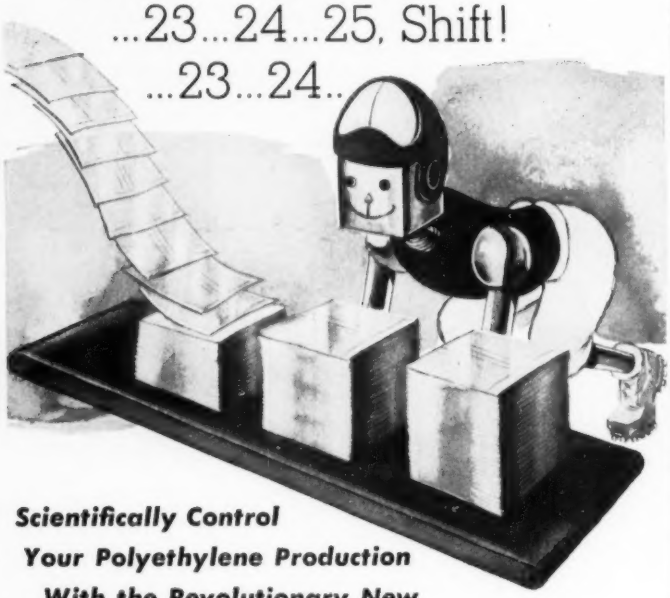
...23...24...25, Shift!
...23...24...25, Shift!
...23...24...



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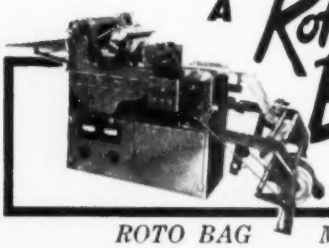
The Electronic Counter and Conveyor

This amazing new development completely resolves the problem of accurate and efficient handling of polyethylene bags! A dial-controlled marvel, it automatically counts and stacks with complete freedom of choice — any given number from 1 to 100 with positive accuracy assured.

Each successive stack is moved away by the conveyor in a movement completely synchronized with the machine speed. The interval between stacks is variable to accommodate bags of any given width. It is portable and can be moved on casters from one machine to another in order to facilitate your unusual counting problems. No complicated wiring necessary, simply plug it in for use. Coupled with Roto's unique delivery system, the "Computing-Stacker" provides the ultimate in automatic handling of polyethylene bags!



A Roto Bag SPECIAL FEATURE
DESIGNED FOR USE WITH
THE FAMOUS MODEL PO-2

ROTO BAG MACHINE CORPORATION
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however, that the packaging of beans and rice in 4- and 5-lb. cellophane containers has not proved to be very satisfactory because of breakage, even when the heavier weights of film are used, whereas the larger-sized containers in some of the other films have been quite satisfactory. The transparent films other than cellophane are more costly per unit, but may be more durable and practical in the heavier weights. Some packagers are interested in the distribution of containers for 4, 5, 8 and 10 lbs. of some varieties of dry edible beans.

Packaging-machinery manufacturers are making considerable headway in developing attachments that can be quickly installed on machines now in use for filling and sealing 2-lb. packages to enable them to handle larger packages of transparent films other than cellophane. If this equipment can be manufactured at a nominal cost, it is possible that substantial quantities of the non-viscose transparent films could be used satisfactorily, especially for the packaging of some classes of dry edible beans and, in a limited way, for rice in high-consuming areas.

The film used for larger units would cost slightly more per container than cellophane, but these containers could be utilized by the homemaker as reuse bags for foods to be placed in refrigerators and food freezers, and for other uses about the home.

Italian packagers sail

Representatives of the Italian armed services, manufacturing firms and trade associations who visited the United States to study American techniques and materials used in packaging military items have completed their study and were scheduled to depart from New York on June 5. The project was sponsored by the Mutual Security Agency and the Italian Government under MSA's productivity and technical-assistance program, aimed at helping Italy keep abreast of packaging standards being developed to meet specifications of offshore procurement contracts awarded under NATO. Specific studies included the manufacture of moisture-proof, vaporproof and greaseproof barriers; dessicants; inhibitor preservatives, weatherproof, solid-fibre and corrugated containers. The group visited Toledo, Dayton, Chicago, New York and Washington.

Packaging job survey

Starting salaries of from $3,000 to $10,000 a year with the median at $4,000 are predictable for trained packaging technologists, according to a survey recently completed by the Packaging Institute, 342 Madison Ave., New York. This study, Advisory Service Report No. 323, "What 193 Persons Think About Packaging Education and its Employment Potential," summarizes the opinions of 193 persons in the packaging field. The survey was made by the Committee on Education to find how big a market existed for trained packaging technologists and how much they would probably earn after completing a hypothetical four-year university course in packaging. (The only four-year curriculum in packaging in the United States is at Michigan State College, East Lansing, Mich.)

Starting salary estimates average somewhat higher among industrial package users than among the package suppliers. Thus, at the $5,000 starting salary level, 58% more "users" than suppliers expected such graduates to get jobs. While fewer firms predict a possible $6,000 starting salary, there were 75% more "users" than vendors who were optimistic about a trained newcomer to the packaging field at the higher figure.

Guesses as to the potential number of such trained persons that all industry could absorb ranged upward to 5,000 per year among the "user" group and up to 10,000 per year among the supplier group. The suppliers seem to offer a larger market in the quantitative sense, although the predicted starting salaries are slightly lower.

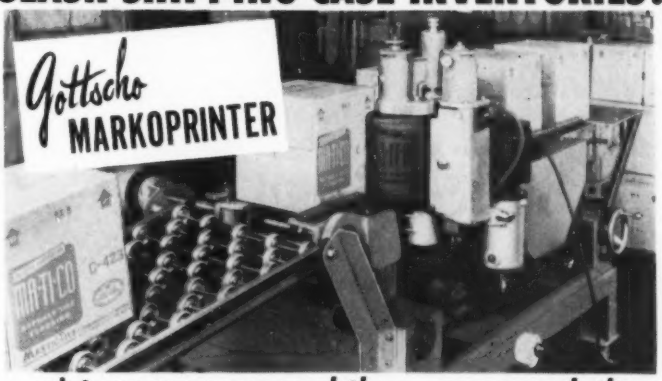
The 32-page report, containing statistics, frequency diagrams and all comments, can be purchased at $5 a copy from the Packaging Institute.

Self-service packaging

A new approach to winning consumer acceptance is dictated by consumer buying practices which are becoming more pronounced with the establishment of more and more supermarkets and self-services stores, declared Alan Berni, president of Alan Berni & Associates, Inc., New York design firm.

"Today we are dealing with an entirely new breed of shoppers—a fact which many marketing men fail to

SLASH SHIPPING CASE INVENTORIES!



...prints cases as you need them—as you pack them

Cut down costly inventories of preprinted shipping cases. Buy corrugated, fibre or wood cases blank — print them . . . *on the packing line* . . . with a MARKOPRINTER. This fully automatic machine prints complete display copy — in 1 or 2 colors on up to 5 sides — in a single pass. . discharges them on to next operation. Adjusts quickly for copy changes, different case sizes. *Write for descriptive literature today.*

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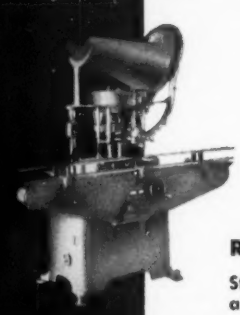

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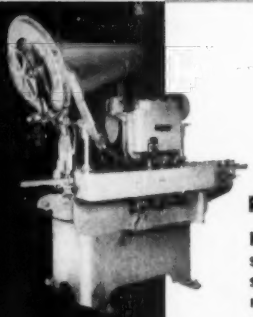

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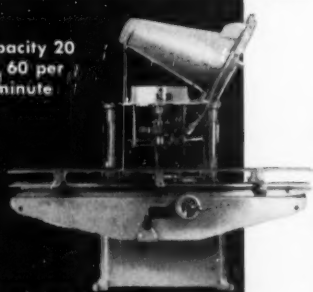

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recognize in their product-promotion planning," Mr. Berni stated. The package is the pivotal factor of the entire marketing operation.

In evaluating the efficacy of his package, Mr. Berni said, the marketer should ask himself these questions: Does my package have prestige-building power in addition to initial attraction value? Is it a package the image of which can be retained easily by the customer? Can it function as the No. 1 asset for product promotion?

Pre-packaged seeds

Supermarket self-service packaging techniques have been adapted to the retail seed store by the Associated Seed Growers, as witness these new

consumer-unit bags for Asgrow vegetable seeds.

These economical shelf packages permit product and brand identity at point of sale. In addition, tailor-made paper bags cost less than other forms of small unit packaging; taped sewn closures, siftproof bottoms and closed surfaces keep out dirt and eliminate principal causes of insect attack; prepackaging permits quick and exact inventory counts; retailer loss which occurs when seed is handled in open bins is eliminated and accidental mixing of seeds in adjacent bins is prevented.

The company formerly shipped seeds to the retailer in large-sized bags of 50 to 120 lbs. This meant that the retailer had to rebag the seed to fill customer orders. Under the new setup seeds are pre-packaged at a central warehouse in four different bag sizes. Because vegetable-seed densities require various-sized bags per unit of weight, Associated Seed Growers use a bag for each particular weight large enough in size to accommodate each. Excess bag paper above the fill point is then cut off by the sewing head during the bag-closing operation.

CREDIT: *Bags, Union Bag & Paper Corp., New York.*

Armour meats

(*This article continued from page 117*)
hundreds of individual can and jar labels, cellophane and parchment wraps, folding cartons, shipping cases, etc., a number of months were required to put the full program into execution. Since shortages of some packaging materials made it impossible to introduce the new design by product groups, as originally planned, new packages and labels were placed on the market as conditions permitted and as previous stocks were exhausted.

Consumers were quick to demonstrate their favorable reaction to the comprehensive new packaging program as the impact of the redesigned labels became apparent in retail store displays. Armour & Co. tied in closely with the new design by making widespread use of the new trademark in advertising, store promotion and displays, bulletins to dealers, uniforms, trucks and other media.

It was the plus values of the new packages that impressed Armour officials most strongly. Mr. Teitelman has listed some of the most important ones as follows:

1. Standard and distinctive Armour identification which could be carried through the entire line.
2. Individual colors for each major product group.
3. Modern and up-to-date color combinations.
4. Attention value and ease of identification.
5. Enormously increased promotional and advertising possibilities.

Inasmuch as Armour & Co. was one of the nation's first meat canners, it is interesting to note that canned items still play a very important part in the Armour line-up of Pantry Shelf foods. More than 25 items in this line, packed in both glass and tin, make Armour the largest-volume canner of meat products today. Incidentally, it is estimated that during 1952, Americans consumed a record 1.4 *billion* pounds of canned meat—an increase of 7% over 1951 and three times the prewar total of 470 million pounds. Over 10% of all meat produced under federal inspection last year went into cans, whereas in 1939 less than 5% was canned. Stanley Wormer, executive vice president, Market Research Corp. of America, contends that canned meat "has demonstrated the most spectacular sales growth in

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DISPLAY!
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it will really move your goods!

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Now — you can cut labor costs to the bone and still greatly *increase* packaging production. This machine wraps at average speeds of *180 units per minute* (some products — 300) *Automatically!* — permitting one person, in many cases, to tend and operate several machines simultaneously. You save on materials, too, as boards, stiffeners and trays need only be used *as desired*. Exclusive "Float" wrapping is the answer. Packages are neat and square cornered with pre-printed wrappers of any modern packaging material, perfectly positioned. Various types of automatic feeds, sealing and delivery may be employed. Product shape or type — brittle, soft, fragile or solid — present no problem, nor do *number* of products per single unit. Send us your product. We'll be glad to tell you how we can *improve* and *speed-up* its packaging with really effective savings

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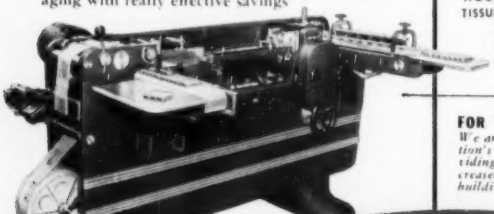
PRODUCTS



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Write for illustrated brochure.

the entire food industry during the past decade and a half."

Armour's skillful use of market research as a tool in developing the company's postwar packaging-redesign program was an important factor in this month's *Hall of Fame* selection. Also notable in this connection are the company's continuing work on product and package development, to make certain that the latest developments in materials and techniques are being utilized, and the annual studies made by Armour on self service and related merchandising trends in the retail meat field. Thoroughness in product development is indicated by the fact that Armour researchers tried out no less than 200 variations of ingredients, temperatures and cooking times before perfecting the present formula for canned beef stew—one of the many popular Pantry Shelf foods.

Although the vacuum package represents but one of the 14 ways in which Armour Star bacon is now packaged, and accounts for only a minor percentage of total sliced bacon volume, it illustrates Armour's close attention to packaging technique as a merchandising weapon. For handling this type of package, Armour is now testing, in the main plant at Chicago, a new rotary-type machine which automatically vacuumizes and seals the packages at high speed.

Within the past couple of years, Armour has introduced a new group of frozen-meat products, including not only a number of poultry items, but also such products as pork cutlets, pork chops, pork tenderloins, veal cutlets, hamburger and Steakees.

Armour & Co. is an outstanding example of the truism that the meat packer today utilizes "everything but the squeal." Packaging makes this possible. The complete list of Armour products, including both food and non-food items, totals more than 2,000. In non-foods, the list ranges from life-saving drugs such as ACTH and other important pharmaceuticals to coated abrasives for industry; more than 200 veterinary products made by Armour Veterinary Laboratories; various types of livestock and poultry feed ingredients, and fertilizers.

Other products swelling the list of Armour non-food items include Dial soap and Dial shampoo, Armour cleanser, Perk granulated soap and Chiffon soap flakes—all produced by Armour Soap Works.

The large pharmaceutical line, for

which a completely revised packaging program was adopted recently (see MODERN PACKAGING, Jan., 1949, p. 92), carries its own distinctive color treatment and logotype, consisting of a capital letter "A" used in conjunction with a mortar-and-pestle symbol.

On many of the other packaged items, the new Armour logotype adopted in 1945 maintains the family identity approach. Although Dash, the Armour canned dog food, does not incorporate the new logotype, the general division of the label into white at the top and solid maroon at the bottom, together with the modern design treatment and selection of type faces, ties even this Armour product into the basic Armour package design.

Armour's current packaging philosophy reflects the company's firm conviction that meat pre-packaging is here to stay and will continue to expand in scope. Since 1948 Armour has made an annual survey of self-service meat merchandising, publishing its findings in an authoritative booklet for meat retailers. More than 150,000 copies of these booklets have been distributed to retailers all over America. In the 1952 survey, W. S. Shafer, Armour vice president, reported that stores with 100% self service on meats had passed the 3,000 mark and that although self-service meat stores represent only 2½% of all stores handling fresh meats, they account for almost 14% of total retail meat sales. Also of interest is the fact that nearly 55% of all the supermarkets opened during 1951 were equipped for 100% self service on meats, as compared with 47% the previous year.

Armour's studies indicate that with the exception of a few instances in which fresh meat is being wrapped in consumer packages in central prepackaging plants, most of this activity is now confined to the individual retail-store level. Due to the relatively short storage life of non-frozen fresh meats, time which would be lost in transporting the product from the meat-packer's plant to the retail outlet, and other problems, it appears likely that this phase of meat packaging will continue to be the responsibility of the retail-store meat department. In the same spirit which led to the adoption of its outstanding new meat packages and labels, however, Armour is keeping its eye sharply trained on developments in this field. In today's highly fluid food-merchandising picture, no alert meat packer can do otherwise.

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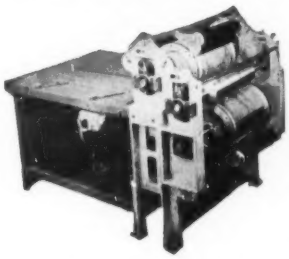

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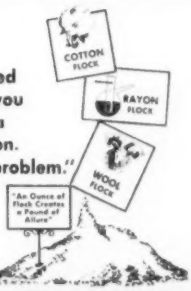

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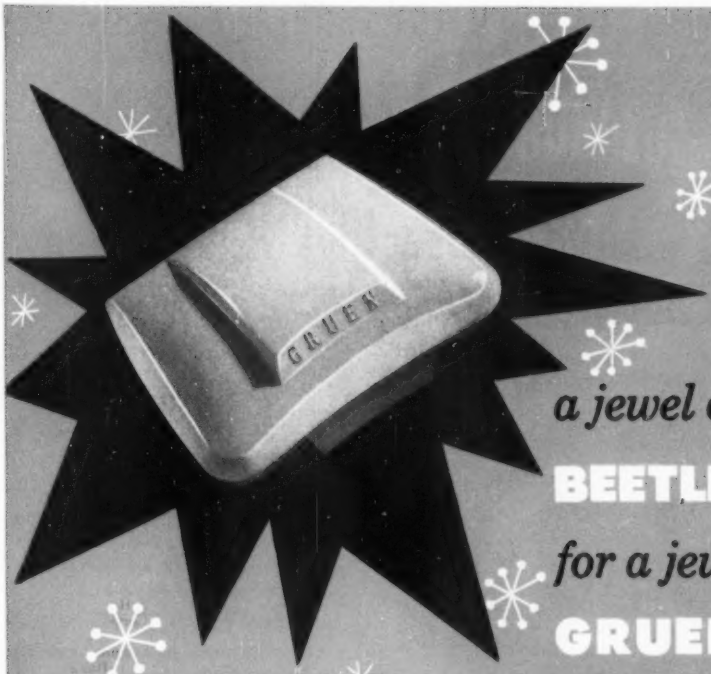

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GENUINE
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MANUFACTURED IN U.S.A. BY H. J. HEINZ CO., PITTSBURGH, PA.
RD-613

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